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Addressing and Mitigating Violence

Green Development, Natural Resource Financialization and Emerging Conflict in Southern Africa with Examples from Implementation Contexts in Madagascar, Tanzania and South Africa

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GREEN DEVELOPMENT, NATURAL RESOURCE FINANCIALIZATION AND EMERGING CONFLICT IN SOUTHERN AFRICA WITH EXAMPLES FROM IMPLEMENTATION CONTEXTS IN MADAGASCAR, TANZANIA AND SOUTH AFRICA

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Abbreviations

AF	Adaptation Fund
AfDB	African Development Bank Group
AGG	Agriculture Green Growth
AHEG	Ad Hoc Expert Group
BBOP	Business and Biodiversity Offsets Programme
CBFM	Community-based forest management
CBNRM	Community-based natural resource management
CBO	Community-based organisation
CD4CDM	Capacity Development for the Clean Development Mechanism
CDM	Clean Development Mechanism
CEV	Corporate Ecosystem Valuation
CI	Conservation International
CIFOR	Center for International Forestry Research
CNGO	Council of Non-Governmental Organisations
CSA	Climate Smart Agriculture
CT	Comité Technique [Technical Committee]
DEA	Department of Environmental Affairs
DRC	Democratic Republic of Congo
EbA	Ecosystem-based Approaches
EfD	Environment for Development
EMA	Environmental Management Act
ESAforD	Ecosystem Service Accounting for Development
ESMAP	Energy Sector Assistance Programme
ET	Emissions Trading
EU	European Union
FBD	Forestry and Beekeeping Division
FCPF	Forest Carbon Partnership Facility
FDI	Foreign direct investment
GCCA	Global Climate Change Alliance
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEI	Green Economy Initiative
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GMI	Global Mining Initiative
ICZM	Integrated coastal zone management
IMF	International Monetary Fund
INC	Initial National Communication
INN	Institute of Natural Resources
IUCN	International Union for the Conservation of Nature
JI	Joint Implementation
LAMP	Land Management Programme
LDCF	Least Developed Countries Fund
LDPI	Land Deal Politics Initiative
MDTFCA	Maloti-Drakensberg Transfrontier Conservation and Development Area
MDTP	Maloti Drakensberg Transfrontier Park
MDTP	Maloti Drakensberg Transfrontier Project
MoU	Memorandum of Understanding
MRV	Monitoring, Reporting and Verification
NAFORMA	National Forest Monitoring Assessment

NAMA	Nationally Appropriate Mitigation Actions
NAPA	National Action Plan of Adaptation
NCSSD	National Conservation Strategy for Sustainable Development
NEAP	National Environmental Action Plan
NEMA	National Environmental Management Act
NEP	National Environmental Policy
NGO	Non-governmental organisation
NPB	National Parks Board
NPI	Net positive impact
NRF	natural resource financialization
OMNIS	l'Office des Mines Nationales et des Industries Stratégiques [Office of National Mining and Strategic Industries]
PA	Protected area
PCC	Project Coordination Committee
PES	Payments for environmental/ecosystem services
PFM	Participatory Forest Management
PMORALG	Prime Minister's Office of Regional Administration and the Local Government
PNLCC	Politique Nationale de Lutte contre le Changement Climatique [National Policy to Combat the Effects of Climate Change]
PPP	public–private partnership
PWS	payments for watershed services
QMM	QIT Madagascar Minerals
REDD	Reducing Emissions from Deforestation and Degradation
RE/EE	renewable energy/energy efficiency
REEEP	Renewable Energy and Energy Efficiency Programme
R-PP	Readiness Preparation Proposal
SADC	Southern African Development Community
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SAHO	South African History Online
SANP	South African National Parks
SEA	System of environmental accounting
SEEA	System of Environmental-Economic Accounting
SEPA	Swedish Environmental Protection Agency
SIDA	Swedish International Development Corporation Agency
SREP	Scaling Up Renewable Energy in Low-income Countries
SRI	Sustainability Research Institute
TEEB	the economics of ecosystems and biodiversity
TFCA	Transfrontier Conservation and Development Area
TFCG	Tanzania Forest Conservation Group
TSG	The Services Group
UNCSD	United Nations Conference on Sustainable Development
UNDP	United Nations Development Programme
UNEMG	United Nations Environment Management Group
UNEP	United Nations Environment Programme
UNEP-WCMC	United Nations Environment Programme-World Conservation Monitoring Centre
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
URT	United Republic of Tanzania
USAID	United States Agency for International Development
VLFR	Village Land Forest Reserve
VNRC	Village Natural Resource Committee
WAVES	Wealth Accounting and the Valuation of Ecosystem Services
WBCSD	World Business Council for Sustainable Development

WCS	Wildlife Conservation Society
WHO	World Health Organization
WMA	Wildlife Management Area
WWF	Worldwide Fund for Nature

1 Introduction

One of the oddly positive effects of global warming is that it has given the world the opportunity to build a more comprehensive and inclusive economic model.
Commentary by the editors of *Nature* ('Markets can save forests' 2008)

1.1 The green economy, green growth and natural resource financialization

In recent years, widespread uncertainty around global economic and environmental futures has contributed to growing advocacy for a global 'greening' of the economy involving the coordinated establishment of pro-environment economic policies and programmes around the world (Barbier 2010; UNDESA 2009). Following the dominant framings favoured by the United Nations (UN) and partners, the term 'green economy' refers to a flexible policy toolkit that includes recommendations for environmental regulations, market-based and financial instruments, and voluntary initiatives to promote capitalisation of pro-environment goods and services and stimulate green economic growth (UNEMG 2011). Along these lines, a number of UN-affiliated international and regional intergovernmental organisations and development banks have developed their own complementary green growth strategies and frameworks that link up with the UN approach through a number of collaborations, agreements, mechanisms and partnerships (AfDB 2014; Fay 2012; UNDESA 2013).

In this report, the terms 'green economy' and 'green growth' are used at times to reference the same thing – to refer to the common dominant principles of these approaches, namely:

- **Environmentally sustainable economic growth** – the idea that economic growth and environmental integrity can be complementary and achievable goals within the appropriate market and regulatory contexts
- **Socially inclusive green growth** – the idea that green economic growth should be pro-poor and maximise both immediate and local benefits to reduce poverty and vulnerability and long-term global benefits towards sustainability
- **Universality** – the idea that transitions to green economies should be universal to realise a cumulative global transition towards sustainability
- **Flexibility** – there is no single green growth model; green economic strategies will vary by region and country based on context, capabilities, preferences and funding.

A key area of the green economy approach centres on advancing policy reforms, programmes, platforms, financial instruments, markets and mechanisms that facilitate international investment and trading in a variety of financialized 'natural capital' products and services derived through assessment of intact and healthy terrestrial and marine ecosystems, particularly in resource-rich lower-income countries. With a conceptual basis in environmental economics, the logic underlying the practice – henceforth referred to as natural resource financialization, or NRF – is that economic growth and environmental preservation are only compatible when the environmental functions are priced and marketed correctly (Death 2014; Pearce, Markandya and Barbier 1989).

A variety of ecosystemic properties and functions are the subject of financialization efforts and initiatives. These include, but are not limited to, coastal protection services; terrestrial and marine biodiversity; marine and freshwater purification services; terrestrial, marine, and coastal carbon sequestration, and generalised or bundled environmental and ecosystem services (Natural Capital Project 2015). Since the Kyoto Protocol of 1997, compliance-based markets for certified carbon offsets – derived financial instruments that are linked to

regulatory requirements for reducing greenhouse gas (GHG) emissions that, when traded across international borders, allow continued emission of GHGs in industrial contexts in exchange for climate mitigation activities elsewhere – have been particularly integral to global strategies for climate change mitigation, and are one of the most vigorously promoted green economy policies (McAfee 2015; Silver 2015; World Bank 2012). In addition, a number of voluntary markets for financialized environmental products and services have arisen as well, under various trading and certification schemes.

Stakeholders in the UN system, multilateral banks and donor agencies, the private sector, and the public sector are intended to use the green economy toolkit to initiate reforms that will remove obstacles to the 'greening' of economic growth and will contribute to a global systemic transition towards sustainability (UNEMG 2011; World Bank 2012). These reforms necessitate collaboration among donors, international banking and finance, environmental organisations, formal governance institutions, national governments and civil society, and frequently build upon existing regional-level planning structures and national-level environmental programmes and protected area (PA) networks. National programmes are expanded through environmental policy reforms to incorporate, for example, offset schemes for maintaining biodiversity and sequestering atmospheric carbon, ecological 'rehabilitation' and 'payment for ecosystem services' approaches, and expansive bundles of policies and programmes under institutional arrangements and trading mechanisms like the Clean Development Mechanism (CDM) of the Kyoto Protocol and programmes that help countries develop national strategies for Reducing Emissions from Deforestation and Degradation (REDD/REDD+) (Leach and Scoones, forthcoming; Sullivan 2012). Carbon and environmental services trading through linkages to such programmes are appealing to the governments of many lower-income countries. This is because these programmes are designed to attract external investment in green infrastructure development, and incorporate schemes for payments for ecosystem services (PES) to local communities with the goal of compensating for the local costs of environmental preservation and contributing to poverty alleviation (Michaelowa 2013; Silver 2015).

1.2 Policy framings and challenges

The broad appeals of market-based green economy approaches to environmental conservation and development lie in a bundled package of policy promises – to mitigate the effects of global climate change, to preserve crucial ecosystem functions, and to capture what are termed 'triple-win' opportunities for achieving socially inclusive environmental sustainability, economic growth, and poverty alleviation through policy reform and coordinated action (UNDP 2012). The triple win of the green economy also encompasses promises of scale. For the international community, these programmes promise to make both the global economy and the global environment 'work' to support one another, while providing offsets to mitigate environmentally destructive industrial activities. For lower-income countries with large endowments of natural resources, these schemes promise new means of financing national development programmes and preserving natural ecosystems, which have become framed increasingly in terms of capital assets. On a local level, these policies promise to manifest in the establishment of programmes that will preserve natural resources, enhance livelihoods, increase resilience in the face of environmental hazards, and generate streams of income for cash-strapped local communities to invest in infrastructure and development initiatives.

Yet, green development approaches, and NRF initiatives in particular, remain controversial, and the environmental, economic, and social justice-oriented projections of their proponents are widely contested. On a basic level, policymaking for climate compatible development often occurs without guidance on means of assessing unanticipated conflicts, trade-offs, and synergies that arise as programmes and projects are implemented, and evidence-based

studies that objectively document triple-win outcomes are rare (Baker, Milner-Gulland and Leader-Williams 2012; Suckall, Stringer and Tompkins 2014; Tompkins *et al*. 2013).

Further contestation results from differing and conflicting notions around the concept and measurement of 'sustainability'; the environmental implications of economic growth; the disproportionate fiscal risk faced by relatively politically weak national governments levying the future economic performance of derivatives based on the health of natural ecosystems for aid; from the fact that policies fostering natural resource financialization carry profound implications for social and material dimensions of local livelihoods in lower-income countries, and from the potential of NRF reforms to promote inequitable property regimes as a result of new policies that shift rights to access and control of land and resources away from direct users to the state and/or private investors.

1.3 The green economy and conflict potential in Southern Africa

Development policy and conflict literatures highlight the importance of so-called 'high-value' natural resources to sustainable development planning, emerging conflict, and security issues. High-value resources are commodities that, in their natural state, have high revenue potential (Douglas and Alie 2014: 271). While this category of resources conventionally includes mostly extractive products such as gold, oil, natural gas and diamonds, for example, it could be argued that NRF policies are creating a new class comprising non-extractive high-value conservation resources – monetised natural capital assets – on which environmental derivatives are based. In the process of realising policy reforms to support carbon or biodiversity offset schemes, PES schemes, expansive policy packages such as national REDD+ programmes, and other investment schemes, conflicts can cross scales and be catalysed at multiple jurisdictional levels.

1.4 The scope, structure and limitations of the report

This report explores existing literature covering policy approaches to the green economy; regional and national green economy policy reforms; NRF-specific concerns related to these reforms; specific project dynamics, and incidences of conflict, in order to determine the broader implications of green economy NRF policies for emerging conflicts in Southern Africa.

Geographically, this report focuses on the Southern African Development Community (SADC) region and particular policy transitions, national environmental plans and NRF-oriented conservation policies implemented in three SADC member states – Madagascar, Tanzania and South Africa. The temporal scope of this report is limited to recent NRF-oriented policy transitions around policies implemented in these settings between 1990 and 2015.

In the context of international conservation planning and policy reform, multi-level conflicts can emerge through numerous pathways (Redpath *et al*. 2013; Young *et al*. 2010). This report focuses on three areas of potential policy-related conflict in particular: (1) conflict that arises due to contradictory or contested policy objectives, (2) conflict that arises around trans-border issues related to policy reforms in the Southern African region and (3) conflict that arises around shifting control of territory and/or resources in particular places or sites of intervention.

The report will address the following seven broad questions in relation to the international green economy movement, NRF policies, and conflict on different – but linked – jurisdictional levels:

1. What does green economy policy mean in relation to the roles of different groups of stakeholders, and in relation to the concepts of scarcity, sustainability and development?
2. What is the role of NRF in the broader evolution green economy policy at international, regional (SADC) and national levels?
3. How have the governments of Madagascar, Tanzania and South Africa and their development partners interpreted and translated global and SADC-level policies, directives and agreements into national-level environmental policy?
4. What forms have green economy/NRF projects taken in these three national contexts?
5. How is the governance structure of national-level programmes and projects shaped by different national political and economic contexts?
6. What forms do emerging conflicts take in the context of NRF policy implementation, and in turn, what are the policy implications of these conflicts?
7. How do green economy/NRF policy reforms intersect with conventional modes of environmental conservation such as 'fortress' and 'community-based' approaches?

While this report seeks to be comprehensive in addressing the above questions, it is by no means exhaustive and is limited by a number of factors related to ongoing planning processes, bureaucratic complexity and a lack of transparency across levels. The green economy is an emerging and incomplete process. Policy reform involves creating linkages to international mechanisms and markets that are still in conceptual stages, are incomplete, or under negotiation. A good example of this is the proposed REDD+ mechanism, a forest carbon trading mechanism that is already the basis of many emerging national environmental strategies and demonstration projects yet remains incomplete and under negotiation. Therefore, even though one may examine the social dynamics of, for example, the development of a national REDD+ strategy or a REDD-oriented local forestry project, one cannot yet be certain how these observed dynamics will be affected in the future once the mechanism is fully realised and later adjusted.

Likewise, regional and national policy frameworks for green economy/green growth reforms are also under development, and in some instances, just being initiated. Therefore current national and sub-national programmes and projects to support green economy/NRF transitions are overwhelmingly 'demonstration' or 'pilot' projects, experiments in how to make ecology and society follow the rules of neoclassical economics. Particularly on a project level, policy implementation, evaluation and reporting lacks consistency and transparency. This is particularly so in regard to problems and conflicts that often arise in the context of implementation but do not support the dominant policy framings relating to the 'triple win'.

1.5 Case studies from Madagascar, Tanzania and South Africa

This report uses case studies from three countries within the SADC region to illustrate how green economy transitions and NRF policies intersect with national political and conservation policy histories, and are associated with emerging conflicts and conflict potentials in different contexts within the region. These studies include:

Biodiversity offsetting and ilmenite mining in south-eastern Madagascar. The example from Madagascar focuses biodiversity offsetting and related processes and activities by Rio Tinto/QIT Madagascar Minerals (QMM), a mining company co-owned by the government of Madagascar and a multinational extractives company, intending to offset environmental damage caused by extensive mineral sands mining activities in Mandena near the town of Fort Dauphin located on the south-eastern tip of Madagascar. This case explores implications of the 'emerging nexus' of multinational extractive activities, biodiversity conservation and NRF in the context of international green economy transitions, and demonstrates how multiple dimensions of NRF (e.g. environmental accounting, carbon

sequestration, biodiversity offsetting, PES) can be incorporated into a single offsetting scheme that can enhance potential for local conflict in circumstances of persistent social and economic inequality. This case highlights important processes around the sub-national 'unfolding' of sustainable development and green growth strategies, including the relative roles of states, private sector actors, non-governmental organisations (NGOs) and local populations in facilitating green growth schemes, and specifically how NRF and offsetting can buttress relationships between diverse groups of actors in low-income countries. This case additionally underscores the ways in which NRF, in practice, can blur distinctions between environmental stewardship and environmental degradation; different NRF market domains, and social inclusion and exclusion in particular project contexts.

The intersection of community-based forest management (CBFM) and emerging REDD+ policy in Tanzania. The example from Tanzania focuses on conflict potentials at the intersection of decentralised CBFM and emerging REDD+ policy in the context of the Suledo Forest Reserve in Tanzania. In recent decades, Tanzania has built an international reputation as a leader in decentralised, community-based forest and wildlife management. However, emerging REDD+ policies are at odds with CBFM; there is a stark difference between the idea of managing a forest to maintain it as 'standing carbon' under the national REDD+ strategy, and managing a forest for multiple and flexible purposes based on the needs and priorities of local communities in negotiation with other stakeholders along the lines of CBFM as epitomised in the Suledo Forest Reserve. This 'policy paradox' has begun to contribute to a retrenchment of centralised top-down approaches to forest management in Tanzania, and, for the residents/managers of the Suledo Forest Reserve, increasing conflict with administrators over governance, rights and benefits of forest management.

Collaboration, conflict and payments for environmental/ecosystem services (PES) in policy around planning the Maloti-Drakensberg Transfrontier Conservation Area in South Africa and Lesotho. The example from South Africa and Lesotho focuses on transnational dynamics and conflict around planning for the Maloti-Drakensberg Transfrontier Conservation and Development Area (MDTFCA), a collaborative trans-boundary PA that is operated jointly between the Republic of South Africa and the Kingdom of Lesotho and is oriented around bio-regional conservation and payments for environmental/ecosystem services around water resources. This case demonstrates how planning conflicts between the planning committees of South Africa and Lesotho reflect the fact that, despite portrayals of their collaboration over the MDTFCA as promoting peace and international cooperation, uneven partnerships can lead to conflict. As demonstrated in the case of the MDTFCA, the international popularity and 'win-win' promise of PES and other financialization instruments can be applied by competing actors in conflictual policy situations to legitimate claims and positions, and dominate planning relationships and processes.

2 Building and governing the green economy: key concepts, frameworks and institutions in green economy transitions

2.1 Policy framings and the role of natural resource financialization (NRF) in the green economy

Broadly speaking, the terms 'green growth' and 'green economy' encompass a number of approaches to integrating economic and environmental policy concerns that articulate alternate growth schemes to account for and mediate, through economic means and environmental governance transitions, human impacts on the biosphere. These schemes and transitions have varying policy implications across scales and sectors (Tienhaara 2014). In other words, the green economy means different things to different people, institutions, organisations, governments and disciplines, and is broad reaching in its policy significance.

Although it gained substantial political traction in the late 2000s, 'green economy' is not a new term. It originated with the rising discipline of environmental economics in the 1980s, and was discussed in a 1989 report produced for the UK Department of the Environment entitled *Blueprint for a Green Economy* (Pearce *et al*. 1989). The authors of *Blueprint* sought to engage with the now-classic conception of sustainable development put forth in the Brundtland Report, *Our Common Future:* '…to ensure that [development] meets the needs of the present without compromising the ability of future generations to meet their own needs' (Death 2014; Drexhage and Murphy 2010; WCED 1987: 8).

The foundations of the vision of the green economy advanced by the UN and allied global environmental and development agencies today are based strongly in conventional development economics, environmental economics and, to a weaker extent, in ecological economics.[1] The dominant framing considers 'economy', 'environment' and 'society' as conceptually discrete and distinguishable domains, with nature and natural processes framed as neglected dimensions of an 'immanent market-world' (McAfee 2015: 239). The underlying logic is that economic growth and environmental preservation are compatible policy objectives, but only when environmental assets and functions are priced correctly. When they are not, environmental degradation results from market failures and accounting omissions (Death 2014; Pearce *et al*. 1989; Ring *et al.* 2010).

Following this framing, if environmental services such as clean water, clean air, erosion control, coastal protection and carbon sequestration are 'free of charge,' then they receive too little policy consideration and human beneficiaries will ultimately undervalue the ecosystems and processes that produce them because 'external costs' of exploitation will not figure into individual decisions about the use of natural resources, making them prone to degradation (Costanza *et al*. 1997). Proponents of green economy reforms contend that market failures and resulting degrading behaviour has led to the emergence of a 'tragedy of

[1] Although dominated by market-centric development economics and environmental economic thinking, important green economy concepts have been adopted from ecological economics as well and have become part of the standard vernacular of the green economy. These include concepts such as ecological limits, natural capital, the global commons and global goods, ecosystem services, and a 'strong' notion of sustainability (Richardson 2013). According to Costanza and colleagues (2012), because other forms of capital and assets depend entirely on the natural world and natural capital, sustainability requires that humans live off of the 'interest' (sustainable yields) generated by natural capital without depleting the capital itself. This is the central concept characterising the 'strong sustainability' position within green economy debates. In contrast, a 'weak sustainability' position views both natural and human-made capitals as inherently substitutable (Costanza *et al*. 2012).

the global commons' scenario in the early twenty-first century, in which individuals have enjoyed free exploitation of resources and environmental services, while the costs of this utilisation (externalities and resulting resource scarcities) are distributed among all current and future users.

As Death (2014) argues, essential principles and academic debates among ecological and environmental economists have arguably changed little since the 1980s, but what has changed is the political and economic context of the debates in the late twentieth and early twenty-first century. A number of global economic and environmental policy trends since the 1990s are associated with the global diffusion of environmental pricing and the increasing importance of private financing of conservation and sustainable development, and while at the same time converging crises, including the climate crisis in the global financial crisis, are crucial to understanding why the idea of the green economy has returned to prominence and become a key policy issue of the early twenty-first century.

Both of these crises gave strength and urgency to the idea of the necessity of state intervention in the economy, and to the idea of the need for economic planning and targeted investments. Perceptions of these linked crises were, and continue to be, shaped by growing international anxiety and policy debate around global climate change, mitigation and adaptation throughout the first decade of the twenty-first century. In turn, due to the dual nature of the crises, interest in the green economy is motivated by two parallel, but seemingly disparate, primary concerns: while some see the green economy as a metaphor and means for building a more ecologically or socially sustainable future, others see it as an opportunity to expand markets and kick-start economic growth. As a result, some notions of the term 'green economy' sway one way or the other, while some, like the United Nations Environment Programme (UNEP) definition, discussed below, attempt a full reconciliation of the two positions (Death 2014: 5).

The most authoritative, policy-oriented working definition for the green economy (and the main focus of this report) is associated with the UNEP's Green Economy Initiative (GEI), launched in 2008, which holds that 'a green economy is one that results in improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities' (UNEP 2011a: 1). This conception of the green economy was heavily promoted (and, it is important to note, contested) in the lead-up to the United Nations Conference on Sustainable Development (UNCSD) (Rio+20) held in Rio de Janeiro in 2012 (Tienhaara 2014). In the sense applied by the UNEP, the green economy is conceptually broad, socially inclusive, resource efficient and low carbon. Green economic growth is driven by a combination of public and private investments that enhance sustainability, and prevent loss of biodiversity and ecosystem functions and services. The trajectory of the green economy is oriented around preserving and rebuilding 'natural capital as an economic asset and a source of public benefits', especially for the poorest (UNEP 2011a: 1). According to the UNEP (2011a), the purposes of green economic development schemes include promotion of investment-driven economic growth, reduction or offset of carbon emissions and pollution, enhancement of energy and resource efficiency, preservation of biodiversity, and enhancement of ecosystem services (16). UNEP (2011) explains that, '[t]his development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and source of public benefits, especially for poor people whose livelihoods and security depend strongly on nature' (16).

Following UN framings, the green economy is meant to serve primarily as a flexible policy toolkit that includes recommendations for command-and-control environmental regulations as well as market-based and financial instruments and voluntary initiatives to promote pro-environment goods and services from which stakeholders on multiple levels can choose and then adapt to national and local particularities and needs (UNEMG 2011). Furthermore, green economy strategies target a broad variety of sectors and domains, including science

and technology, energy, transportation, industry and agriculture. Cumulatively, green economy reforms are intended to realise a global systemic transition towards sustainability in production, consumption and growth. A primary goal is to encourage investment in natural resource-efficient technology, renewable energy, and other means of low-emissions growth in order to counteract the negative environmental, economic and social consequences associated with the conventional global 'brown' economy in which growth is driven by intensive and unsustainable use of natural resources and petrochemicals.

2.2 Roles and responsibilities in green economy policy transitions

According to the United Nations Environment Management Group (UNEMG) (2011), three primary groups of stakeholders have key roles and responsibilities related to bringing about green economy transitions. These are: (1) members of the UN system and multilateral development banks, (2) private sector investors, and (3) the public sector, which includes national, sub-national and local governments.

The role of the UN system and multilateral development banks is to provide technical advice and technical support to governments in the areas of policy and project design and implementation; carbon market development; guidance on the greening of value chains; providing assistance to help countries maximise investments in energy efficient and climate change mitigation and adaptation made by the private sector, and applying a range of instruments to support and fund the development of climate-smart agriculture and infrastructure.

The role of the private sector in the green economy is primarily that of investor. Specific types of responsibilities include making investments in green ideas, technologies and programmes; creating innovative solutions that reduce emissions and resource use, and creating innovative solutions to generate economic growth and employment opportunities.

In this scheme, the public sectors of particular countries carry the greatest burden of responsibility. Public sector roles and responsibilities include influencing the flow of private funding for programmes and establishing the appropriate investment context through public spending; triggering green economy policy transitions, including institutionalising sustainable consumption and production patterns; building the necessary professional and institutional capacity for the green economy transition; curtailing corruption through clear regulation; working with the private sector to identify impediments to green economy transitions, and to establish clear, stable and coherent policy and regulatory frameworks that facilitate the integration of social, environmental and governance issues into investment decision-making; ensuring that investment treaty practices encourage green investments without leading to 'green protectionism'; ensuring inter-ministerial collaboration to communicate the negative societal implications of under-pricing to all concerned parties, and designing and implementing new fiscal and tax policies in line with full-cost pricing[2] policies on how to use generated revenue.

Although not discussed in detail by the United Nations Environment Management Group (UNEMG), within this system, regional governing bodies and intergovernmental

[2] As part of the System of Environmental-Economic Accounting (SEEA), full-cost pricing is an essential principle and tool of the green economy. Full-cost pricing calls for formally accounting for the full social and environmental costs – including the costs of managing, abstracting, and providing access to natural resources and environmental goods and services – of a national economy. Apart from reflecting social and environmental costs and prices through taxes, full-cost pricing also implies phasing out of environmentally harmful subsidies such as those on fossil fuels, fisheries, forestry, water use, land use and agriculture because they encourage carbon emissions, resource depletion and environmental degradation, and because they cause trade distortions and constrain public finance. According to the UNEMG, full-cost pricing is necessary because it contributes to a more level playing field between the established 'brown' technologies and newer green technologies (UNEMG 2011; UNSD 2014b).

organisations are also expected to play an important role ensuring the proliferation of green economy reforms among member states, including designing regional green economy strategies to link up with global initiatives such as the CDM and REDD+, and facilitating member countries' participation in them.

2.3 Green economy reforms and confronting climate change

According to the UNEP, specific green economic development schemes should include promotion of investment-driven economic growth, reduction or offset of carbon omissions and pollution, enhancement of sustainable energy and resource efficiency, preservation of biodiversity, and enhancement of ecosystem services (UNEP 2011a). Along these lines, a green development trajectory should, 'maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and source of public benefits, especially for poor people whose livelihood and security depend strongly on nature' (UNEP 2011a: 1). In the context of climate change policies, specific activities and policies are often categorised as contributing to 'adaptation' or 'mitigation'. Adaptation refers to 'adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities' or increases social or ecological resilience (Parry 2007; SADC 2010; Smit and Wandel 2006). Such activities may be oriented around disaster risk reduction, or oriented around building social resilience in the face of anticipated climatic shocks. Mitigation activities, in which NRF-related activities are included, are defined as 'intervention[s] to reduce the sources or enhance the sinks of greenhouse gases', and include activities related to, for example, enhancing capacity for producing clean energy, developing market-based mechanisms to reduce deforestation or enhance forest stocks, enhancing carbon sequestration in agricultural and forestry sectors and increasing access to international markets for ecosystem services (SADC 2010; Smit and Wandel 2006).

2.4 Economic and policy trends implicated in the establishment of markets and mechanisms for environmental conservation products

While the current dominant manifestation of the green economy approach coalesced in the wake of the 2008–09 crisis, the policy framings, accounting practices, mechanisms, partnerships and logics that drive it arose due in large part prior to that, in the context of the expansion and mainstreaming of sustainable development efforts in the 1990s. This occurred through a series of transformative policy debates that occurred alongside a series of multilateral environmental conferences that were convened (e.g. the 1992 UN Conference on Environment and Development; the General Assembly Special Session on the Environment (1997)), treaties produced (e.g. the UN Framework Convention on Climate Change (1992); the Convention on Biological Diversity (1992); the Convention to Combat Desertification (1994); the Kyoto Protocol (1997)) and resolutions that were passed (e.g. the Rio Declaration on Environment and Development (1992); Agenda 21 (1992); Forest Principles (1992)) which cumulatively contributed to establishing the normative policy language, global infrastructure and mechanisms for globally integrated environmental and economic governance. These included the introduction and proliferation of a few key concepts and practices associated with NRF: national-level environmental-economic accounting, including 'natural capital' accounting, principles towards the establishment of international markets for new environmental products and services based on standard valuation and monetised measures of environmental health and degradation, and creating standards for banking and trading environmental products and services as financial securities.

Understanding markets for trading in environmental goods and services can be complicated due to the bureaucratic structure of global NRF, the high number of markets and market-like mechanisms, due to the fact that trading can occur on both primary and secondary as well as

‘compliance’ and ‘voluntary’ markets, as a result of numerous shifts in patterns of trading over the years, and due to a lack of transparency and reporting consistency in the system. The establishment of international markets for financialized environmental conservation products has developed gradually since the early 1990s, with intellectual roots that go back farther. This development has been associated with policy trends and a series of economic shocks and crises related to high-yield investment ‘bubbles’ and busts that affected global financial markets throughout the 2000s. Boom-and-bust financial cycles resulted in a situation in which an array of private financial actors including investment banks and management companies were looking for new investment opportunities, and investments in developing countries and environmental securities seemed a promising solution. Concurrently, the establishment of markets for financialized environmental products has developed as a result of the interaction among concurrent and overlapping economic and environmental policy trends and framings (Leach, Scoones and Stirling 2010). These include:

- Normalisation and mainstreaming of economistic environmental framings in global environmental policy
- The increasing proportion of the global economy controlled by private finance, driven by international investment
- The practice of leveraging public monies to attract private investment
- The evolution of environmental pricing mechanisms, environmental-economic accounting and the creation of ecosystem-based conservation commodities
- The establishment of multilateral commitments to emissions reduction targets
- The establishment of international compliance markets and mechanisms for emissions offsets under the UN Framework Convention on Climate Change (UNFCCC)
- The establishment of voluntary markets for conservation products.

Historically speaking, the establishment of markets for conservation products was dependent on the widespread adoption from the 1980s of increasingly economistic language, first as a metaphor among some academics and then spreading, in a more literal sense, to policy, to describe ecological processes and functions. The language of ‘ecosystem services’ began as a strategic effort to communicate, in a language that reflects ‘dominant political and economic views’, the significance of non-market ecosystems and biodiversity to humanity, and to encourage their conservation (Gómez-Baggethun and Ruiz-Pérez 2011: 614). The normalisation and mainstreaming of economistic environmental framings in global environmental policy has manifested in notable shifts towards the literal monetary valuation of natural resources through natural capital and ecosystem services accounting on the national level (discussed in the previous section) (Costanza *et al*. 1997; De Groot *et al*. 2012; UNSD 2014b). This is most evident in the outputs of the 1992 United Nations Conference on Environment and Development (the Rio Earth Summit), including the 1997 Kyoto Protocol, which proposed plans for establishing guidelines around integrated environmental-economic accounting, emissions allowances, and flexibility mechanisms for offsets trading, and the 2005 Millennium Ecosystems Assessment, which frames the natural environment’s relationship to humans as a provider of goods and services (Corvalan, Hales and McMichael 2005; Sullivan 2013; UNCED 1992).

The estimated cost of the programme of work that was an outcome of the 1992 Rio Earth Summit – a global systemic shift towards the goal of sustainable development – was extremely high. Wealthy parties were only willing to commit about US$125bn in public funds towards the US$625bn estimated cost of implementing, and subsequent commitments have not significantly reduced the funding gap (Newell 2013). Since the early 1990s, the proportion of the global economy represented by private finance has grown exponentially. As an illustrative example, in 1992, public financial flows were still greater than private financial flows worldwide, despite ‘successive waves of liberalisation in global finance’, yet by 1996

private flows were more than five times larger due to institutional and individual investors' search for increasingly higher returns and diversification (Ganzi *et al*. 1998; Newell 2013: 115). One attempted means of closing the gap has been to apply public monies to particular 'leverage points' within the financial system to encourage private investment in a range of sustainable development arenas (Ganzi *et al*. 1998).

2.5 Natural capital, integrated environmental-economic accounting and environmental pricing

Costanza and colleagues (2012), writing from the disciplinary perspective of ecological economics, define natural capital as 'the natural environment and its biodiversity, which, in combination with the other types of capital, provide ecosystem goods and services, which are the benefits that humans derive from ecosystems and are essential to basic needs such as survival, climate regulation, habitat for other species, water supply, food, fibre, fuel, recreation, cultural amenities, and the raw materials required for all economic production (Costanza *et al*. 2012: v–vi). In the context of sustainable development, natural capital is considered one of several overlapping types of capital/asset along with social, cultural, human and built capital assets that, in different combinations, produce goods, services and attributes that allow humans to survive and thrive. These productive natural assets are referred to as 'capital' in a broader sense than the traditional use of the term in the context of neoclassical economics. Here, natural capital indicates a stock or accumulation or heritage – received from past generations, and contributing to the welfare of the present and future generations – through particular biological and geophysical functions that regulate natural processes which are essential to human survival (Aylward and Barbier 1992; Pearce *et al*. 1989).

Appropriately valuing *in situ* natural capital and its functions in national accounting is the first step towards environmental pricing. Prior to widespread policy implementation, this was depicted in the environmental and ecological economics literatures variably as either a relatively straightforward process that required that ecology be translated into the language of market economics, or an extremely challenging process due to the complexity of tracking non-market 'goods' and 'services'. For example, according to Aylward and Barbier (1992), valuing ecosystem functions is '…a matter of determining the connection between underlying ecosystem relationships and the overarching economic system' (35). They continue that, since any natural or human-made system is characterised by three essential concepts: stocks, flows and the organisation of the stocks and flows, a starting point in valuation should be to identify parallel concepts in ecology (structural components, environmental functions and diversity) and economics (goods, services and attributes). Conversely, Repetto and Magrath (1988) discuss the fact that integrating natural resources into national income accounts by assigning values to resources and the services they provide, is especially difficult with resources that are not already ascribed market values (Repetto and Magrath 1988).

Natural capital and ecosystem services accounting, long advocated and methodologically debated by environmental and ecological economists, entered policy discussions in the early 1990s as means to acknowledge and account for the role of the natural environment as an important asset of developing countries. A call to develop a programme of 'integrated environmental and economic accounting' in all countries featured prominently in Agenda 21, the voluntary treaty/action plan signed by 178 governments who were party to the 1992 UN Conference on Environment and Development, often called the Rio Earth Summit, in Rio de Janeiro, Brazil (UNCED 1992).

Costanza and colleagues (2012) summarise a number of critiques and limitations of gross domestic product (GDP) as a wellbeing measure. These include the fact that GDP fails to account for both beneficial and harmful externalities; that activities that deplete natural

resource stocks are counted as 'income'; failure to account for inequality; failure to account for changes to the natural resource base, and an overemphasis on flows and underemphasis on stocks (Costanza *et al*. 2012: 50). Integrated environmental and economic accounting was envisioned as a way to move beyond traditional goods and services in calculating GDP by addressing many of these issues through acknowledging and including the role of the natural environment as a source of natural capital assets and as a sink for harmful by-products of industrial activity.

After many years, several handbook iterations, and the creation of the Committee of Experts on Environmental-Economic Accounting in 2005, international guidelines for the System of Environmental-Economic Accounting (SEEA), the primary environmental 'satellite' programme of the System of National Accounts, was adopted by the United Nations Statistical Commission in 2012 and was undergoing revision as recently as 2014 (UNSD 1993, 2003, 2009, 2014b). The 2012 SEEA comprehensive guidance consists of three documents: the Central Framework (UNSD 2014b), Experimental Ecosystem Accounting (UNSD 2014c), and Applications and Extensions (UNSD 2014a). Together, these documents respond to the call from Agenda 21 and seek to: (1) present a statistical framework designed so that users can easily link and compare environmental and economic variables, including a comprehensive set of tables and accounts to guide the compilation of statistics and indicators for policymaking, analysis and research; (2) define a measurement framework for integrating biophysical data, tracking changes in ecosystems and linking those changes to human behaviours and economic activities; (3) articulate procedures for assessing and calculating the market values (and changes in the values) of a variety of natural resource stocks, goods and services, and (4) demonstrate how this information can be used in decision-making, policy review and formulation, analysis and research.

Challenges to environmental-economic accounting stem from lack of capacity and expertise needed for implementation, and from problems with measurement and definition. For example, ecology and economics have failed to standardise and operationalise the definition and the measurement of ecosystem services and across disciplines and sub-disciplines there exist multiple, competing meanings of the term. This is problematic for policymakers and professionals tasked with environmental accounting because environmental accounting systems increasingly are adopting 'services' as units they must track, measure and account for (Boyd and Banzhaf 2007: 616). Despite efforts to mainstream national-level environmental-economic accounting and develop broadly applicable guidelines, identifying reliable methodological approaches to modelling, valuing and accounting for natural capital, and the ecosystem services provided by it, have been challenging to economists, statisticians, policymakers and governments. This is due to a number of inherent challenges related to global inequalities in the capabilities of different countries to implement programmes, as well as to fundamental problems reducing or abstracting the properties and interactions of complex, diverse and dynamic systems to 'manageable' and measurable commodity units or conservation products commensurate with standard market principles and logics. This is related to the problem of determining the appropriate market values of *in situ* natural capital assets – things and relationships that do not have a long history of commoditisation and, by definition, only have economic value as productive capital as intact natural systems and components (UNSD 2014b).

As advocated by the System of Environmental-Economic Accounting (SEES) and the economics of ecosystems and biodiversity (TEEB), and as incorporated into national-level policies, systematically valuing *in situ* ecosystems and their functions in national accounting is one pathway towards environmental pricing. Pricing can and has occurred in a number of approaches to environmental mitigation that have been applied in various ways in both wealthy and lower-income countries – with non-financialized mechanisms such as monetised accounting, fines or taxation for net degraders/polluters and subsidies and payments for net conservers and stewards; with more financialized, yet regulated, mechanisms such as

carbon allowances and carbon, sulphur, water/watershed quality, marine resource or biodiversity offsets, or through fully financialized, unregulated mechanisms and financial instruments such as securities (Gómez-Baggethun and Ruiz-Pérez 2011; Kollmuss, Zink and Polycarp 2008; Sullivan 2009, 2012, 2014).

2.6 International compliance and voluntary markets for environmental conservation products

Compliance markets are regulated mechanisms to compel entities (governments, regions, or companies that are usually high net polluters) to reduce environmentally destructive activities through participation in mitigation activities to offset environmental harm. Compliance markets for environmental offsetting can be created and regulated by multilateral agreements, and through regional-, national-, and sub-national-level legislation to establish trading schemes for a variety of environmental mitigation products, including credits associated with GHG emissions regulation, biodiversity and habitat offsets, wetlands services, air pollution and water quality, for example. Such compliance programmes exist in the European Union (EU), Brazil, Canada, New Zealand, the USA, and in the state of California, and may or may not 'link up' with multilateral mechanisms. In fact, according to Doswald and colleagues, some of the oldest and most developed biodiversity offsetting schemes in the world are associated with the USA Clean Water Act of 1972 and Endangered Species Act of 1973 (Doswald *et al.* 2012).

International emissions markets stem primarily from international efforts to regulate global carbon dioxide emissions in the UNFCCC, which adopted the Kyoto Protocol in 1997 (Corbera and Brown 2008). The Kyoto Protocol, which was ratified by 170 countries, set legally binding emissions reductions targets for 37 industrialised countries (exceptions include the USA and Australia) known as Annex 1 countries. In order to facilitate compliance with the treaty, the Kyoto Protocol established three 'flexibility mechanisms': Emissions Trading (ET), Joint Implementation (JI) and the CDM. ET established a cap-and-trade system of certified units for GHG emissions reduction. Under the mechanism, Annex 1 parties receive an allotment of emissions allowances related to overall reduction targets. Countries may choose to reduce emissions to reach targets through internal adjustments in emissions or through trading units across international borders. The JI and the CDM are both 'project-based' mechanisms, in which mitigation projects, which may or may not be based on ecosystem services, must go through a certification and verification process in order to count. The JI established a mechanism for mitigation relationships in which Annex 1 countries can meet mitigation targets by generating credits from emissions-reducing or saving projects in other Annex 1 countries. The CDM is a mechanism that establishes similar mitigation relationships between Annex 1 and non-Annex 1 (lower-income, less industrialised) countries. When projects are established and verified units can be 'traded', so-called 'compliance' markets are created.

Another compliance mechanism that has been under negotiation under the UNFCCC for several years is known as Reducing Emissions from Deforestation and Forest Degradation (REDD+). REDD+ is a set of guidelines to facilitate the development of national strategies for tropical forest management and forest-based mitigation activities in developing countries, an area that many parties to the Kyoto Protocol felt was not sufficiently addressed in the context of the CDM. At the moment, engaging in REDD+ is seen by developing countries with large forest endowments as a means to access international resources to improve the impacts of conservation projects and enhance local livelihoods (Ferguson 2009). REDD+ activities in participating countries are funded through a number of multilateral and bilateral agreements, and the majority of current financial flows associated with REDD+ are in the form of development aid to establish national-level programmes and sub-national projects. These are intended to feed into national-level REDD+ strategies. Once REDD+ negotiations are finalised on a global level, national programmes established, and reporting

and verification mechanisms tested, it is anticipated that funding will transition from aid into performance-based payments for forest-based emissions reductions in particular countries (Ecosystem Marketplace 2013). These payments are intended to be the result of REDD+ carbon units traded on both compliance and voluntary markets.

Voluntary markets have developed separately from and function outside of compliance markets, and are unregulated markets for trading in carbon, biodiversity and ecosystem services commodities. Voluntary markets are meant to enable businesses, governments, or individuals to purchase credits created under the CDM or various voluntary schemes as investments or to offset their own emissions (Kollmuss *et al*. 2008). Conventional investment banks and management companies design new markets and market-like instruments for ecosystem services delivery and other 'green' securities investments. To do so, investment banks and international organisations encourage developing countries to accept loans for environmental mainstreaming – by integrating ecosystem services and green economy principles in all planning activities – and capacity building to be able to sustain, enhance and account for natural capital stocks. At the same time, at least in theory, investment banks and international organisations direct flows of financing from mutual funds, unit trusts and pension funds, the investment wings of property, casualty, and life insurance companies, venture capital firms and private foundations to investment opportunities in developing countries wishing to attract investors to finance major green transitions, and in particular the environmental mitigation activities that promise to usher in a new era of sustainable economic growth (Ganzi *et al*. 1998; Lohmann 2010).

2.7 From sustainable development to the green economy vision

Following a proliferation of publications, reports and heated debates during its lead-up, in the summer of 2012, the member states of the United Nations convened in Rio de Janeiro, Brazil for the UN Conference on Sustainable Development (UNCSD) (UNDESA 2011). The meeting was convened in the context of multiple overlapping crises, a questionable economic recovery, an immensely powerful global finance industry, unprecedented global social and economic inequalities, widespread disappointment with the performance of past sustainable development policies, conflicts over the meeting agenda and new ideas about expanding economic growth in the twenty-first century (Bina 2013). Like the Rio Earth Summit of 1992, the 2012 UNCSD, or 'Rio+20' as it has become known, represents an important moment in recent global environmental policy. This is not primarily due to the outputs of the meeting itself, which included a working paper titled *The Future We Want* and several resolutions around sustainable development commitments (UN 2012a, 2012b), but due to the opportunity that it represented for rebranding the multilateral environment-development policy strategy of the past twenty years as the 'green economy', and enhancing the approach in a few key areas, including strengthening international governance and financing mechanisms, emphasising the role of capital allocation in avoiding crisis; strengthening global capacity for dissemination of knowledge and expertise, and for mainstreaming the approach in the UN's work and partnerships among UN agencies and institutions and multilateral banks, bilateral aid agencies, NGOs, intergovernmental organisations, governments and private finance. If, as Brand (2012) notes, the vision of sustainable development articulated at the 1992 Rio Earth Summit represented 'an attempt to reconcile environmental problems with those of development' (Brand 2012: 28), then the vision of the green economy articulated in the lead-up and context of Rio+20 might be characterised as an attempt to reconcile problems of managing global environmental crisis with those of the global financial industry.

Even though the framework of the green economy represents a shift in notions of sustainable development and the respective roles of the economy, ecosystems, and governance institutions in it, the particular elements making up the proposed green economy framework, or toolkit, are not new. In fact, they are, for the most part, policy artefacts of the sustainable

development approach of the 1990s and early 2000s and are associated with the promotion of clean energy, infrastructure and transportation; integrated environmental-economic accounting following SEEA and World Bank guidelines; leveraging (advocating the development of national-level regulatory frameworks to attract investment and reduce risk to private investors and markets); PES and other green market-based and financial instruments linked to conservation, forestry and agriculture (UNEP 2011b). The intensification of NRF promotion and planning in particular, as a key element of the UNEP green economy toolkit, is meant to simultaneously address the convergent economic and environmental crises of the early twenty-first century by correcting policy gaps, environmental management shortcomings and market failures.

3 The global green economy and regional economy strategies in the Southern African Development Community (SADC)

3.1 Regional overview

The SADC is a regional intergovernmental organisation formally established between ten Southern African states by treaty in 1992 (SADC 1993), and is broadly oriented around coordination among member states across broad economic and social sectors. The SADC is based in Gaborone, Botswana, and membership comprises fifteen countries that geographically span the Southern African continent and the Western Indian Ocean: Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe (Mahembe and Odhiambo 2014; SADC 2012b).

At its founding, the broad goals of the SADC included promoting integration and cooperation around political and economic governance; trans-border peace and security; self-sustaining development with complementarity between regional and national strategies and programmes; environmental sustainability and protection and working towards intra-regional solidarity (SADC 1993). Yet, some authors have noted that there seem to be two distinct, competing economic visions within the SADC: an inward-looking vision of the SADC as a 'regional fortress' in which member states can seek development through privileged access to an enlarged market area that remains relatively isolated from external markets, and an outward-looking vision of the SADC as a platform for directly improving the competitiveness of individual member states in international markets and for improving consumption opportunities for citizens of different member states (Erasmus, Flatters and Kirk 2006; Flatters and Kirk 2003).

This perception may in fact reflect the fact that SADC member states are incredibly diverse in terms of historical, political, ecological and economic trajectories, and in their relationships with one another, resulting in marked variation in development indicators, governance capabilities, infrastructure, per capita income and wealth, levels of foreign direct investment (FDI), state capacity, residents' access to public services and trade dynamics (Mahembe and Odhiambo 2013). For example, simply in terms of GDP, the Democratic Republic of Congo (DRC), Madagascar, Malawi, Mozambique, Tanzania and Zimbabwe are all low-income economies within the SADC, while the economies of Lesotho, Zambia and Swaziland are classified as lower middle-income. Angola, Botswana, Mauritius, Namibia, Seychelles and South Africa are all considered higher middle-income economies (World Bank 2015). South Africa is a particularly powerful political and economic influence within the region, and in fact, one justification of the formation of the SADC was to dismantle regional dependencies on South Africa's economy and international trade arrangements. Despite this, South Africa remains a very important regional influence 'as a result of the size of its economy, power of its state and capital-state interactions' (Carmody 2012).

In addition to economic inequalities and dependencies, other areas of significant intra-regional variability relate to endowments of natural capital assets, levels of direct dependency of the human population on natural resources for sustenance and survival, assessed levels of environmental degradation (e.g. levels of endemic biodiversity, deforestation, erosion, other forms of land cover change, and degree of national engagement on environmental issues (Naidoo, Davis and Van Garderen 2013). Despite a proliferation of

intra-regional reforms focusing on decentralisation, privatisation of services, and (to varying degrees) development-focused national-level comprehensive environmental programming through the 1990s and 2000s, much of the region has not been able to effectively 'maximise the economic benefits from their forest resources' with the exception of South Africa and Zimbabwe (SADC 2011).

3.2 The SADC green economy approach

According to Rochette and Billé (2012), the regionalisation of international environmental laws and norms is one of the most important legal trends in recent decades. This reflects the idea that many environmental problems of global significance require policy action at regional, national and local levels (Rochette and Billé 2012). Along these lines, even though the SADC region is a low net producer of greenhouse gas emissions, it has always maintained a policy commitment to sustainable development principles. According to the initial treaty that established the organisation, which was signed in the same year as the first Rio Earth Summit, a main strategic goal stated that, 'policy measures will be taken and mechanisms instituted to protect the environment, and manage natural resource utilisation with a view to achieving optimum sustainable benefits for the present and future generations of Southern Africans' (SADC 1993). Since the late 2000s and the lead-up to and following the Rio+20 summit in 2012, the SADC Secretariat has embraced the language of the green economy and has worked with consultants affiliated with, among others, the UNEP, World Bank and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to design a what would come to be termed a regional green economy strategy, and to assess capacity for implementing particular finance-based climate change adaptation and mitigation measures across member countries. Yet, despite this, progress towards green growth policy transitions at the SADC level are not proceeding quickly and efforts remain fragmentary. In fact some authors attest that regional progress is 'only now beginning' (Nhamo and Nhamo 2014: 59).

The current SADC green economy regional approach is heavily oriented around energy efficiency and particularly resource financialization in the form of REDD/REDD+, carbon accounting and participation in international carbon markets, and mainstreaming of green growth principles across sectors has already begun. In recent years, the SADC has produced a variety of wide-reaching policy frameworks including the Regional Infrastructure Development Master Plan, the SADC Industrial Development Framework, and the draft Regional Agriculture Policy, each of which seek to 'mainstream' pro-environment green growth principles in different ways. For example, the Regional Infrastructure Master Plan emphasises a technology-based 'greening' of the energy sectors of member states, as well as strengthening governance and infrastructure to support transfrontier conservation areas (SADC 2012c). The SADC Industrial Development Framework highlights the importance of low-emissions industrial development and the low-carbon clean technology (SADC 2012a). Among all three of these policy documents, the SADC Regional Agricultural Policy (2013a) includes the most emphasis on green growth strategies, including carbon and biodiversity-oriented NRF (e.g. carbon stock analysis applied to international trading to benefit agricultural and forestry sectors).

The Southern Africa Sub-Regional Framework of Climate Change Programmes, a stocktaking and gap analysis report produced in 2010, includes the goals of expanding PA networks throughout the region, of creating market-based mechanisms for forest preservation under REDD and REDD+, establishing protocols for carbon and greenhouse gas accounting, and of strengthening of institutions and the building of capacity to gain access to the available financial mechanisms under CDM and other financiers. These goals were framed as a regionally coordinated approach to supporting global mitigation efforts (as well as financing sources for proposed adaptation and mitigation actions), preserving nature and reducing poverty (SADC 2010). As of 2010, even though region-level scoping activities

were well underway, only the Democratic Republic of Congo, Tanzania and Zambia had projects linked up with the UN-REDD programme, although there was a reported interest in related activities from most member countries across the region (SADC 2010). By 2013, regionally coordinated REDD+ pilot projects were being designed for the Baikea Woodlands in Botswana, the Miombo Woodlands in Malawi, and the Mopane Woodlands in Mozambique (Naidoo *et al*. 2013; SADC 2013b).

Even though the regional SADC strategy is overwhelmingly carbon-centric in terms of financialization goals, it is important to note that other types of types of green economy-aligned financialization programmes and projects do exist or are under consideration on national or sub-national levels in different member countries. These include biodiversity offsetting, PES schemes built around biodiversity, water and bundles of services, and Ecosystem-based Approaches (EbA) that involve linkages to global financial markets (Anglo Platinum 2009; Devisscher 2010; King 2014; Ruhweza and Waage 2007).

3.3 Policy framings and challenges to coordinating policy reforms on an intra-regional level

On the regional level of the SADC, 'big picture' framings of green economy reforms tend to follow the pattern of global environmental and development organisations, emphasising benefits from future financialization programmes and sustainability potentials, opportunities for member states to capitalise on plentiful natural resources and to finance national development programmes and preserve natural ecosystems, and promises for local programmes to enhance livelihoods and increase resilience in the face of climatic change.

However, in closer detail there are notable and important differences in framing as well, including a lack of emphasis on broad abstract concepts such as scarcity and markets as adopted from environmental economics in global green economy discourse, and a focus on sub-regional, rather than global, impacts of climatic and landscape change, and repeated assertions of the relative culpability of the global North and global South in relation to environmental degradation that contrasts greatly with UN framings. These assertions highlight the fact that the SADC region contributes very low levels of energy-related GHG emissions, resulting in a 'negligible' contribution towards global climate change, yet SADC member states 'are among the most vulnerable to trans-boundary effects of global climate change' (Barnard 2014: 26).

For example, the UNEMG (2011) states that, '[t]he context of the development of this [green economy] approach is an acknowledgment that the resource intensity of production and consumption activities in developed and developing countries exacerbates resource constraints and threatens to break planetary boundaries', implying evenly shared culpability for environmental degradation and shared responsibility for mediation and corrective action (UNEMG 2011). Contrary to this framing, the 2011 SADC Support Programme on Reducing Emissions from Deforestation and Forest Degradation (REDD), which proposed a 'blueprint' for sub-regional capacity building towards implementation of reforms across sectors, contrasted its position on REDD and REDD+ to that of industrialised regions that are net polluters and 'tend to emphasise emission reduction commitments from all parties,' while framing developing countries' perception of REDD as 'an opportunity to seek funding for adaptation, sustainable forest management and poverty reduction; with emission reductions being a useful outcome and a global good' (SADC 2011: 5). Reports produced by the SADC Council of Non-Governmental Organisations (CNGO) in 2011 and 2012 further locate the underlying drivers of global climate change as 'the result of economic growth and consumption and production patterns, historically from the global North' (SADC-CNGO 2011, 2012).

Another key difference in policy framings relates to the visibility of discussion of potential constraints to green economy implementation in policy documents. Pre- and post-2012 SADC policy documents dedicate a substantial amount of space to discussing practical realities and constraints to sub-regional integration around environmental mainstreaming (systemically incorporating green economy principles throughout existing institutions, directives and policies) among member states, including both long-standing and emerging challenges to coordinating uptake across different member countries and sectors. According to the SADC Secretariat, long-standing constraints facing regional coordination and implementation of sustainable development programmes are linked to the existence of too many development programmes operating in the region, leading to technocratic gridlock; pervasive institutional weaknesses and poor capacity for transitions on regional and sub-regional levels; lack of access to financial, technical and human resources; over-dependence of the region and member states on international donor funding, ongoing intra-regional dependency on South Africa, and institutional 'misalignment' across countries. These long-standing circumstances intersect with new and emerging challenges, including the overlapping crises of 2008–09; persistent poverty, HIV/AIDS, and gender inequity, and failed attempts to create employment, entrepreneurship and trade opportunities (SADC 2010, 2011, 2013b). Completion of the 2010 scoping study for sub-regional climate change programmes faced several limitations that may relate to such long-standing and more recent constraints, including the fact that the authors of the study received limited feedback from national governments on the questionnaire that they circulated and had inadequate opportunities for interaction with national actors since there were no country visits. They were further limited by 'the multi-disciplinary nature of climate change and variability, as well as disjointed sector-based interventions', which made it difficult to identify and target specific government departments or programmes dealing with adaptation and mitigation actions (SADC 2010: 25).

3.4 Uptake of green economy reforms among select SADC member states

Regional-level policy reforms are a continuing project on the level of the SADC. In recent years, the SADC has produced a variety of wide-reaching policy frameworks for guiding sustainable development of infrastructure, industry and agricultural policy that have proven and remain difficult to implement across the region (Sikuka 2014). The forthcoming regional Green Growth Strategy and Action Plan (Vision 2050) will likely face similar difficulties in implementation. According to the UNEP (2014), countries seeking to make green economy policy reforms are often faced with significant challenges and barriers, including 'extreme poverty, growing inequity, degradation of ecosystems, and vulnerability to climate change' (UNEP 2014: 1). Regional inequalities discussed in the previous sections extend to the capabilities of different SADC member countries to establish new programmes linking existing environmental programmes, industry and energy sectors to international green economy initiatives, partnerships and mechanisms. This is due to a number of factors that variably limit or enhance member countries' willingness or capabilities to commit to new programmes or carry out environmental mainstreaming (Nhamo and Nhamo 2014).

For example, according to the SADC Secretariat, one sub-regional trend that proved a limitation to regional coordination related to the fact that many 'national policies, programmes and projects on agriculture do not mainstream the need for proper land use management for purposes of enhancing carbon sequestration. There is therefore a gap in the agriculture policies, programmes and projects of these countries' (SADC 2010). Yet, at the same time, some countries within the region, specifically Mauritius and South Africa, are well ahead in terms of green growth policy transitions (Nhamo and Nhamo 2014).

In order to paint a more complete picture of the relative uptake of financialization-oriented green economy policies across the region, this section explores how governments of select SADC member states – Madagascar, Tanzania and South Africa – and their partners have interpreted and translated international and regional-level policies and recommendations into national-level environmental and development planning.

4 Green economy and green growth policy transitions in Madagascar

4.1 Country overview

Madagascar, located in the Southern Africa and Western Indian Ocean region, is the fourth largest island in the world with a land area of 581,540 square kilometres and a population of just over 23 million. Madagascar is one of the poorest countries in the world, and also one of the world's 'hottest hotspots' for biodiversity; over 90 per cent of the island's plants and animals are endemic to the island (Ganzhorn *et al.* 2001). The majority of the Malagasy population live in rural areas, and 80 per cent of the adults make a living through agriculture, fishing and forestry. These sectors account for over one quarter of Madagascar's GDP (CIA 2014). A long period of political crisis began in early 2009, which dealt additional blows to the struggling economy as the government was put under aid sanctions and revenue from tourism, another key national industry, fell by over half.

Madagascar was the last major land mass on Earth to be permanently settled by humans, and is a country of significant cultural and ecological diversity. Its economic and demographic history are associated with its location in the Western Indian Ocean along historic Indian Ocean trade routes, and contemporary Malagasy culture, language, and genes reflect African, Arab, Indian, Indonesian, East Asian, European and American influences (Beaujard 2005; Dewar and Wright 1993; Southall 1971). Madagascar was an independent kingdom prior to colonisation by France in 1898. After gaining independence from France in 1960, Madagascar passed through four political phases, or 'republics', each characterised by distinct constitutions, internal political processes, and relationships with other countries and regions.

In the 1980s, Madagascar's economic performance was internationally perceived as a severe crisis, and a new period of liberalisation was ushered in as foreign investment in resources and industry was once again encouraged and structural adjustment programmes were put in place (Horning 2006). With the presidential election in 1992, Madagascar entered the phase of the Third Republic. This period is characterised by further state decentralisation and new partnerships with networks of NGOs, private companies, bilateral donors, and multilateral financial institutions (Duffy 2006). These shifts have been accompanied by increased policy attention to issues of democratisation, economic liberalisation, and national economic development, and an emphasis on the necessity of the interdependence of development goals and environmental preservation (USAID 2010).

It was during the period between the early 1990s and mid- to late-2000s that what some authors have termed the 'conservation boom' took hold in Madagascar with the establishment of a three-phase National Environmental Action Plan (NEAP) (Duffy 2005; Marcus and Kull 1999; Mercier 2009). In the early 2000s, former president Marc Ravalomanana articulated the 'Durban Vision' to triple the size of Madagascar's network of protected areas, or convert 10 per cent of Madagascar's surface area to formal conservation protection. As of 2014, about 5 per cent of Madagascar's total land area is under varying degrees of formal protection (World Bank 2015).

Conservation activities in Madagascar are hotly contested among different groups of stakeholders, not the least due to the negative effects that Madagascar's conservation policies have had for rural livelihoods, and problems related to inclusivity, equity, and social justice remain key challenges to the sustainability of environmental policy in Madagascar

(Ferguson 2009; Huff 2011, 2012, 2014; Scales 2014). According to Scales (2014), the central challenge for conservation policy in Madagascar relates to the question of 'how to protect the island's remarkable biological diversity at the same time as improving the livelihoods of the millions of people directly dependent on its ecosystems for their livelihoods?' (Scales 2014: 5).

4.2 National green economy transitions

In Madagascar, national policy and sub-national programmes have a long history of attention to issues of biodiversity conservation, reducing deforestation, restoring forest cover and experimentation with a variety of different environmental policy frameworks and management schemes from 'fortress' conservation to community-based natural resource management (CBNRM) to PES (Randimby and Razafintsalama 2006). Sustainable development and environmental protection have arguably been among the most important national policy issues in Madagascar for the past twenty-five years, and have been linked to state restructuring, streams of multilateral and bilateral aid for both environmental and social programming, to the activities of private companies and foundations and to efforts around establishing a revenue-generating international ecotourism industry. In fact a great deal of effort during the second and third phases of the NEAP was and is being put to establishing conditions, practices and infrastructure for mainstreaming sustainable development and natural resource management principles at the national and sub-national levels through policy reforms, encouraging or mandating improved local environmental practices, environmental management schemes and promoting environmental education (Mercier 2009).

Because of this, even though Madagascar has not developed a formal green economy strategy, Madagascar offers a fertile policy space for the uptake of green economy/green growth reforms and the country has passed several important pieces of national legislation along these lines in relation to climate change adaptation and mitigation, agriculture and coastal development. These included the launch of the three-phase NEAP in 1991, the 2010 Policy for the Sustainable Development of Coastal and Marine Areas, and the expansive 2011 National Policy to Combat the Effects of Climate Change (PNLCC), which established a number of adaptation- and mitigation-oriented instruments and protocols, including the framework for developing a National Action Plan of Adaptation (NAPA) and a list of Nationally Appropriate Mitigation Actions (NAMA), a national strategy for obtaining approval for carbon projects under the CDM of the Kyoto Protocol. This established parameters for assessment of national GHG emissions, and established thirty new climate monitoring stations in the most vulnerable areas of Madagascar (Rakotondrosoa and Ratovo 2014; Razafindralambo and Gaylord 2006).

National reforms and transitions that pertain to NRF have been organised around a few key activities, which build upon existing conservation policy infrastructure, the national PA network, international institutional and organisational networks (including partnerships with environmental NGOs and membership in formal green economy platforms and forums), and public–private partnerships (PPPs). The majority of the projects carried out under these platforms are not overseen directly by the state or public agencies in Madagascar. Rather, they are carried out through cooperative partnerships and co-funding arrangements among many actors and groups. In addition to agencies and organisations affiliated with the United Nations and the World Bank, projects are carried out with input from national- and sub-national-level quasi-government agencies; government ministries; international environmental NGOs and private non-profit foundations (the most prominent in Madagascar being the Worldwide Fund for Nature (WWF), Conservation International (CI) and the Wildlife Conservation Society (WCS), but many smaller organisations and foundations support action in Madagascar); private companies and bilateral aid agencies. Through binding partnerships and funding commitments with these platforms and forums, including the national and sub-

national institutional changes required to facilitate programmes and projects, green economy principles become part of the policy landscape of the country.

These key activities and initiatives include:

- The ongoing development of a national REDD+ strategy
- The ongoing development of a national SEEA
- Adaptation to climate change through coastal zone management and ecological restoration
- The generation of project-based carbon credits through linkages to the CDM
- A position of strong protection of natural ecosystems, habitats and biodiversity mainstreamed into other policy areas
- Establishing a public policy environment conducive to private and corporate investment in NRF-oriented conservation projects around carbon, biodiversity, and 'bundled' ecosystem services.

For the past several years, a major policy priority has been the development of a national REDD+ strategy with technical and funding assistance from the Forest Carbon Partnership Facility (FCPF) and, more recently, through knowledge sharing from the UN-REDD programme (FCPF 2014; Vahanen 2010; Vahanen *et al*. 2009). Madagascar is among 36 countries selected to participate in the World Bank's FCPF Readiness programme, one of two programmes – the Readiness Fund and the Carbon Fund – administered by the FCPF to assist developing countries in developing national-level REDD+ activities by assigning economic value to standing forests (FCPF 2014, 2015; Naidoo *et al*. 2013). As of 2014, Madagascar's REDD Technical Committee (CT-REDD) of the Ministry of Environment, Ecology and Forests had completed its Readiness Preparation Proposal (R-PP). The R-PP is described by the FCPF as the country's national 'roadmap for REDD+ readiness', which includes stages and procedures for two years of work towards finalising the national REDD+ strategy (FCPF 2014). Madagascar also receives non-financial support from the UN-REDD programme, a partnership between FAO, the United Nations Development Programme (UNDP) and the UNEP that supports the national REDD+ strategy processes (UN-REDD 2015; Vahanen 2010; Vahanen *et al*. 2009).

The Global Environment Facility (GEF) of the UNEP and the World Bank have supported and continue to support a number of programmes and projects in Madagascar around the issues of climate change, land and forest degradation, and biodiversity which are at various stages of planning, assessment and implementation (GEF 2015). Programmes for climate-smart agriculture in the drought-prone southwest region of the country and adaptive coastal zone management are being developed to achieve resilience in the face of climatic changes. Climate-smart agriculture and coastal management planning, which includes habitat restoration and livelihoods improvement projects, is primarily supported through the Least Developed Countries Fund (LDCF) and the Adaptation Fund (AF) of the GEF (Biagini *et al*. 2012; GEF 2012). The AF is financed through the CDM of the Kyoto Protocol (UNDESA 2013).

The ongoing development of a national SEEA is being carried out with assistance from the World Bank-led Wealth Accounting and the Valuation of Ecosystem Services (WAVES) Programme (WAVES 2012a, 2012b, 2014, 2015b). Also, several climate change mitigation-oriented projects in Madagascar are approved under the CDM. These include Sahanivotry Hydro Power Plant, a solar cooker promotion project, and many forest and conservation carbon projects (Springate-Baginski and Wollenberg 2010).

4.3 Case study – Biodiversity offsetting and ilmenite mining in south-eastern Madagascar

This case study focuses on biodiversity offsetting and related processes and activities by Rio Tinto/QMM intending to offset environmental damage caused by extensive mineral sands mining activities in Mandena near the town of Fort Dauphin (also called Tolagnaro) located on the south-eastern tip of Madagascar. This case highlights the implications of the 'emerging nexus' of multinational extractive activities, biodiversity conservation and NRF in the context of international green economy transitions (Seagle 2013). This case also demonstrates how multiple dimensions of NRF (e.g. environmental accounting, carbon sequestration, biodiversity offsetting, PES) can be incorporated into a single offsetting scheme that can enhance potential for local conflict in circumstances of persistent social and economic inequality.

At the International Union for the Conservation of Nature's (IUCN) World Conservation Congress in Bangkok in 2004, representatives of the multinational mining company Rio Tinto announced that it 'aims to have a net positive impact [NPI] on biodiversity by minimising the negative impacts of its activities and by making appropriate contributions to conservation in the regions in which it operates' (Turner 2014). This is the central idea behind Rio Tinto's subsequent global 'no net loss'/'net positive impact', or NPI, approach, in which the company applies a number of tools and methods, including spatial strategies of voluntary biodiversity offsetting bundled with carbon and ecosystem services accounting and trading, with PES as a compensatory finance mechanism, to fund conservation activities outside of active mining zones (Rio Tinto 2008; Anstee 2008; WBCSD 2015).

This strategy, which has been previously piloted once in the context of the Dampier Salt operations in Western Australia and once in the context of copper mining Mongolia, links place-based extractive and conservation activities to both international voluntary markets and a variety of international voluntary and compliance-based finance mechanisms and market-like instruments, which vary depending on the national policy contexts of particular mining projects (Turner 2014). While the Rio Tinto/QMM Madagascar project is described by company literature as a third 'pilot project' for the NPI approach, the company has experience outside the NPI with environmental impact mitigation activities in diverse contexts, from conservation banking in the USA to linkage with the national REDD+ strategy in Guinea (Anstee 2008; Rio Tinto 2014). Madagascar does not formally require that companies establish biodiversity offsetting programmes to compensate for environmentally destructive industrial activities, but it does have policies in place that encourage companies to establish voluntary environmental safeguards, including biodiversity offsetting schemes (Ekstrom and Rabenantoandro 2013).

Rio Tinto is a UK-based British–Australian multinational mining company, and is one of the largest mining companies in the world. Their ilmenite project, which extracts a titanium dioxide ore that is exported and refined into a white pigment used to colour consumer goods from paint to toothpaste, is the largest development project in Madagascar (Rio Tinto 2015). Extensive titanium exploration in the region was carried out by Rio Tinto throughout the 1980s, followed by an environmental and social impact assessment that was completed in 2001. Rio Tinto/QMM was legally established in 2005, when the Malagasy government agreed to contribute US$35m to the development of infrastructure for a large-scale ilmenite mining enterprise in south-eastern Madagascar. This funding came from a World Bank 'Integrated Growth Poles' project aimed at strengthening finance, export capacity and private sector development. In this particular case, the contribution was earmarked to fund the renovation of the Ehoala Port and urban infrastructure of Fort Dauphin to facilitate QMM's mining activities in three sites in the region (Seagle 2013). Rio Tinto/QMM is jointly owned by Madagascar's *l'Office des Mines Nationales et des Industries Stratégiques* (OMNIS), which

controls 20 per cent of the company, and a French subsidiary of Rio Tinto, which controls 80 per cent of the company (Rio Tinto 2015).

The Rio Tinto/QMM project began in 2005 with infrastructure development, and the purchase and relocation of local Malagasy residents from approximately 6,000 hectares of territory. The project involves three primary sites in south-eastern Madagascar – Mandena, Ste Luce and Petriky – to be mined sequentially under a long-term land lease (between sixty and one hundred years) from the Malagasy government (Gerety 2009; Rio Tinto 2014; Seagle 2009, 2012, 2013). These mining sites include about 6.5 per cent of Madagascar's remaining littoral (coastal) forests, which sit atop ilmenite deposits, in one of the most ecologically diverse areas of the country. Active dredge mining of ilmenite involves destruction of substantial amounts of littoral forest in this context. In accordance with the NPI strategy, Rio Tinto/QMM worked to legally establish five small PAs within the mining area perimeter that would, through the application of Rio Tinto's NPI strategy, serve to offset the biodiversity losses associated with dredge mining sites (Ekstrom and Rabenantoandro 2013; Temple *et al*. 2012; Turner 2014).

Active extraction at the first site, Mandena, began in 2009, and mine managers contend that, at peak capacity, it could produce as much as two million tonnes of ilmenite (worth about US$100 per tonne for unrefined ore) per year to be exported for processing abroad (Seagle 2013). Of the full 6,000-hectare project concession, the Mandena portion of the project comprised approximately 2,000 hectares, and 230 hectares of this were set aside for the Mandena biodiversity conservation area, which is advertised as a 'biodiversity gene bank' for future restoration activities in the area and is promoted by QMM as a destination for ecotourism (Seagle 2009).

In addition to the support of the World Bank and the partnership between Rio Tinto and the Malagasy government, a number of international environmental and development organisations support Rio Tinto's NPI approach in Madagascar. The IUCN entered a formal partnership with Rio Tinto in 2010 after nearly ten years of less formal cooperation. Other corporate partners include organisations such as Bird Life International, the WCS, Conservation International (CI), Kew Botanical Gardens and the United States Agency for International Development (USAID). Rio Tinto's partner organisations praise the company's scientific approach to biodiversity offsetting and portray the company as an ethical, 'model' mining company which goes above and beyond legal requirements for addressing social and environmental issues (Seagle 2009: 15).

Rio Tinto is also a member of a number of initiatives that work to actively 'green' the global extractives industry, including the Global Mining Initiative (GMI) and the Business and Biodiversity Offsets Programme (BBOP). The IUCN is arguably one of the company's most important partners in terms of its environmental image and activities. They, along with the GMI and BBOP, have been instrumental in assisting Rio Tinto in linking to green economy initiatives and developing and branding the NPI approach (WBCSD 2015).

According to Rio Tinto, the NPI approach, as the company's comprehensive mitigation strategy, will ensure 'that our actions have positive effects on biodiversity features and their values that are accepted to outweigh the inevitable negative effects of the physical disturbances and impacts associated with mining and mineral processing' (Anstee 2008). In practice, NPI entails a number of activities to realise a situation in which environmental impacts on biodiversity are formally offset. These are summarised by various authors in terms of the following:

- Establish and manage 'avoidance zones' within mining concessions (Rio Tinto 2014).
- Select metrics for assessing impacts and offsetting activities (Ekstrom and Rabenantoandro 2013).

- Identify ecological ‘baseline’ from which to measure habitat losses and gains over the course of the project (Temple *et al*. 2012).
- Quantify residual losses once the ‘mitigation hierarchy’ has been followed, and ‘gains’ generated through offsetting (Ekstrom and Rabenantoandro 2013).

In the case of the QMM project, avoidance zones are the legally established protected areas within the QMM lease/concession in south-eastern Madagascar (Rio Tinto 2014). Management of these zones involves a number of research, accounting and mitigation activities meant to preserve biodiversity above a ‘baseline’ level. The baseline for the QMM project was selected on the basis of modelling different environmental scenarios and selecting the one that appeared the most realistic. The selected scenario was based on a model that assumed no mining and an annual deforestation rate of 0.9 per cent per year due primarily to the livelihoods practices of local Malagasy communities who were forest users (Temple *et al*. 2012). In this context, the projections of losses and gains are based on additional scenario modelling and quantification of losses and gains against the baseline scenario are carried out periodically through scientific activities such as remote sensing and species-focused biodiversity inventories.

The QMM project’s NPI biodiversity offset programme is directly and indirectly linked to green economy processes through partnerships and both voluntary and compliance markets for finance-based environmental products. The forested avoidance zones are speculated to become part of Madagascar’s system of environmental accounting (SEA) and the national REDD+ programme under approval of the CDM, to generate carbon credits for sale on compliance markets. The revenues generated by these sales would fund both the project-based biodiversity offsetting programme and proposed payments for ecosystem services as a compensatory finance mechanism for local communities negatively impacted by the project (Anstee 2008; Rio Tinto 2008; Seagle 2013; WBCSD 2015). Hypothetically, biodiversity credits produced above the NPI threshold could be traded on voluntary markets to generate further revenue for the project.

The QMM project has long been fraught with controversy. On one hand, the NPI biodiversity offsetting process is considered by a number of international environmental groups to be something of an environmental shell game, an attempt to ‘greenwash’ inherently ‘brown’ industrial activities and land grabbing. In addition, substantial conflicts have occurred between mining personnel and members of local communities that have been affected by the project. These conflicts are associated with dam construction, land dispossession, lost access to littoral forest resources, forced resettlement, enforced conservation, removal of tombs, and decimation of wetland plant species, which entailed various economic and social impacts on people living near the mines and avoidance areas. Affected populations are often the poorest of the poor and most dependent on natural resources for their livelihoods, and compensation for resources lost is widely considered unfair in the local area and is far below World Bank regulations (Seagle 2013). Protests have occurred around the QMM project since mining activities began in 2009, with hundreds of Malagasy people from around the region striking against loss of littoral forest, involuntary relocation, unfair compensation for lost lands and livelihoods, the destruction of sacred forests and ancestral tombs, and widely perceived unfairness in QMM’s practice of importing mine workers from other countries and regions rather than training and hiring local people to work on projects. A particularly large protest occurred in January of 2013, in which hundreds of lightly armed protestors who had experienced eviction from lands now controlled by the mines blocked roads and trapped employees (including the chief of Malagasy operations) in a mining site. After the company threatened to withdraw from all operations in Madagascar, the protest was put down through government military force (Seagle 2013). Some members of affected local populations, with assistance from international advocacy groups, took QMM to court over the issue of inequitable compensation for land, but the case was dismissed in 2013 (*The Telegraph* 2013). These ongoing conflicts and controversies have resulted in a partial scaling-back of

QMM's project activities and plans for expansion of mining activities past the first site have been shelved.

This case highlights important relationships and processes around the sub-national implementation and unfolding of sustainable development and green economy/green growth policies, including the relative roles of states, private sector actors, NGOs and local populations in facilitating green growth schemes, and specifically how NRF and offsetting can buttress relationships between these diverse groups of actors in low-income settings. This case additionally underscores the ways in which NRF, in practice, can blur distinctions between environmental stewardship and environmental degradation; voluntary and compliance market domains; and social inclusion and exclusion, in particular project contexts.

5 Green economy and green growth policy transitions in Tanzania

5.1 Country overview

The United Republic of Tanzania was established following the end of British colonial rule in 1964 with the political merger of the political territories of Tanganyika and Zanzibar. Tanzania is one of the largest countries in sub-Saharan Africa, and is located on the eastern coast of the Southern African mainland, and shares national borders with Burundi, the Democratic Republic of Congo, Kenya, Malawi, Mozambique, Rwanda, Uganda and Zambia (Kideghesho 2008). Like Madagascar, Tanzania is ranked as one of the poorest countries in the world and an estimated 36 per cent of its nearly forty million residents live in poverty (CIA 2014). This is despite significant national economic growth in recent years due to extractive industry and tourism. About one quarter of Tanzania's GDP comes from the agricultural sector.

In the context of contemporary economic growth, some authors have noted a widening development gap between urban and rural contexts in Tanzania in recent years, in which urban areas such as the capital city Dar es Salaam benefit from national infrastructure projects meant to attract FDI, yet many rural areas are 'left behind' and growth is not felt 'on the ground' (Makene 2007: 32). Additionally, as in many Southern African countries, the issue of 'land grabs' have become a prominent issue in Tanzania as large-scale land leases to foreign investors are driven by dynamic political-economic forces related to the triple crises of the late 2000s and new opportunities for market expansion around biofuels, land speculation, extractives, tourism, hunting and carbon forestry (Nelson, Sulle and Lekaita 2012). Tanzania is geologically rich, has one of the highest levels of biodiversity and charismatic wildlife in sub-Saharan Africa, and is home to some of the oldest fossil and archaeological evidence from human prehistory ever discovered (Delson *et al.* 2000).

Prior to European colonisation, booming population centres in coastal areas became established in relation to important trans-continental trade networks. In the sixteenth and eighteenth centuries, respectively, Portuguese and later Arab political expansion into the region increased its economic significance, particularly to the Indian Ocean trade in enslaved people.

By the 1880s, German colonisation was underway in the interior, and Germany maintained colonial control of the area as part of German East Africa until the end of the First World War (Nelson, Nshala and Rodgers 2007). The first large-scale land and environmental policies were passed in the region under German rule. These included the first hunting laws 1891 and comprehensive wildlife regulations, (*Wildschutzverordnung*) in 1896, the year after the Imperial crown ordinance (*Kronlandverordnung)* granted the colonial government exclusive rights of occupation to all 'ownerless land' in the colony (Wanitzek and Sippel 1998). These two sets of rules set the stage for environmental policy trends involving increased legal transformation, through subsequent policies, of wildlife and their habitats from natural resources owned by different groups under customary law to a centrally-governed set of resources with highly controlled access through legal protected areas and hunting reserves (Wanitzek and Sippel 1998).

This trend continued as Britain took over colonial governance of Tanganyika Territory after the First World War, passing major game ordinances and carrying out the re-gazettement of protected areas and reserves, excluding a number of human activities and resettling people

involuntarily from protected areas. These increasingly strict protection policies spawned resistance among populations affected, and generated a number of decades-long conflicts between local populations and wildlife/conservation authorities that lasted long after the end of the colonial period in 1964 (Brockington 2002; Homewood and Rodgers 1991; Nelson and Makko 2003; Nelson *et al*. 2007; Neumann 1992; Wanitzek and Sippel 1998).

In the 1980s, Tanzania undertook a series of transformative legal and policy reforms. International concern over poor economic performance led to recommendations for reforms in line with economic liberalisation and political decentralisation. At the same time, conservation began moving away from a 'fortress' conception of environmental protection towards community-based and sustainable development approaches that gained traction throughout the 1980s and 1990s (Nelson *et al*. 2007). Community-based natural resource management (CBNRM) models typically (and ideally) rely on a 'bottom-up', rather than a 'top-down', approach to managing resources and determining development priorities, and the paradigm is widely promoted as a corrective to the restrictive and exclusionary environmental policies of the past (Campbell and Vainio-Mattila 2003). Strong donor and NGO support led to the establishment of Tanzania's formal Wildlife Policy in 1998, which ushered in a new policy movement in Tanzanian resource management. The Wildlife Policy, while still displaying Tanzania's traditional wildlife-centric approach, further adopted the language of sustainability, biodiversity, stakeholder inclusion, benefits sharing and community control, and resulted in the proliferation of community-based pilot projects around a newly created category of protected area, the Wildlife Management Area (WMA) (United Republic of Tanzania 1998).

While Tanzania was able to initiate policy transitions that involved the mainstreaming of sustainable development principles under Agenda 21 and UN guidance in the 1990s, the reform process around decentralisation and devolution of resource management was fraught with tension and inconsistency, and ultimately little substantive progress was ever made in systematically decentralising resource control or devolving authority over natural resources in WMAs to local people (Nelson *et al*. 2007). Brockington (2008) suggests that the unsatisfactory performance of decentralisation schemes lies in the fact that, even with appropriate policy structures in place, decentralisation is rarely accomplished in full because it is resisted by central governments that either refuse to devolve 'real' power, or devolve it to the wrong authorities (Brockington 2008). Other authors attribute dissatisfactory performance of community-based policy trends in Tanzania to the high costs borne by local communities without equitable access to benefits. According to Kideghesho (2008: 2), 'despite the economic importance of wildlife nationally, the local communities have barely derived benefits sufficient enough to offset the wildlife-induced costs. This has greatly diminished incentives for local people to support conservation efforts'.

Despite the historically demonstrated conflict potential of strict wildlife protection policies, Tanzania has an enduring policy commitment to preserving wildlife and natural landscapes, in large part due to the fact that its wildlife and ecotourism industry contributes approximately 40 per cent of the country's earnings from foreign sources through hunting concessions, trophy licenses, export of live animals and from non-consumptive tourism conducted in game parks and reserves (Kideghesho 2008). The tendency to strict protectionism is at loggerheads with a number of relatively recent policy trends in Tanzania which have, in principle, sought to hand more authority to local-level people for environmental protection and management.

Somewhat paradoxically, as a result of the historical legacy of centralised resource management, institutionalised interest in maintaining firm government control over resources and tensions and antagonisms created by policy-practice gaps and inequitable projects, an emerging trend has been an increasing re-consolidation or re-centralisation control and power over the value of wildlife and natural resources in the country, which has implications

for understanding green growth transitions and conflicts (Benjaminsen *et al.* 2011; Nelson *et al*. 2007).

5.2 National green economy transitions

In Tanzania, national policy and sub-national projects and programmes have a long history of focusing on wildlife, particularly charismatic fauna, and habitat preservation through the creation of human-free or minimal-disturbance parks and reserves. As discussed in the previous section, control of access to wildlife has been a persistent and contentious policy issue since the German colonial period. In sustainable development policy literature, Tanzania is frequently cast as a model example of a low-income country that has successfully mainstreamed sustainable development principles through a stream of donor-funded, yet nationally driven, poverty reduction and sustainable development policies (Death 2013). Nord and colleagues, writing on behalf of the International Monetary Fund (IMF), called Tanzania 'one of the leading reformers in Africa' towards long-term sustainable growth (Nord *et al*. 2009: 7).

However, some scholars have questioned the extent to which these new environmental policies, including Tanzania's 1994 NEAP, the 1995 National Conservation Strategy for Sustainable Development (NCSSD), the 1997 National Environmental Policy (NEP) and the 2004 Environmental Management Act No. 20 (EMA), were actually nationally led (Elliott-Teague 2011; Grosen and Coskun 2010; Mwalyosi and Sosovele 1999; Wijen *et al.* 2012). These environmental reforms were developed in a context of structural adjustment, economic liberalisation, privatisation of the public sector and construction of natural resources as the epicentre of extractive sector reforms meant to attract foreign investment (Grosen and Coskun 2010).

Even though Tanzania does not have a formal green economy strategy, the country has long been a popular location for donor-led policy 'testing', particularly around environmental policy approaches and initiatives, and has, with technical assistance from donors, begun to position itself as a leading participant in NRF-oriented green growth schemes (Nord *et al*. 2009). These have been organised around key activities that build on the existing conservation and forestry policy and PA infrastructure of the country, draw on national and international institutional and organisational networks (including partnerships with NGOs, community-based organisations (CBOs), membership in international green economy and green growth platforms and forums), and PPPs. As in Madagascar, these activities tend to be carried out through cooperation and co-funding arrangements with diverse actors at international, regional and sub-national levels. Green economy principles are incorporated, though not elaborated upon in great detail, in Tanzania's national five-year development plan and are embodied in particular initiatives, agreements and strategy documents (United Republic of Tanzania 2012b; Benson and Greenfield 2012). Key areas of activity include:

- Ongoing development of the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) initiative
- Ongoing effort to develop a national REDD+ strategy, including a national-level REDD mechanism and incentives scheme (e.g. PES and payments for watershed services (PWS))
- Ongoing effort to develop a national REDD+ strategy, including a national-level REDD mechanism, forest monitoring system and incentives scheme
- Developing capacity for transition to renewable energy and energy efficiency (RE/EE) in housing and industry with linkages to the CDM of the Kyoto Protocol
- The ongoing development of a national SEEA.

A great deal of effort has gone into producing a 'greenprint' for a sub-national green growth initiative known as SAGCOT. In 2010, Tanzania launched the SAGCOT initiative as a public–private partnership dedicated to ensuring food security, reducing poverty and spurring economic development in Tanzania's Southern Corridor (Milder, Buck, Hart, Scherr and Shames 2013; Milder, Buck, Hart, Shames *et al*. 2013; Milder, Hart and Buck 2013; Scherr *et al.* 2013; Shames, Scherr and Friedman 2013). Initiated at the World Economic Forum Africa summit in 2010, the SAGCOT initiative had, as of 2012, leveraged public–private sector and multi-donor catalytic investment of over US$2bn from founding partners including Unilever, USAID, the Government of Tanzania, the Tanzania Sugarcane Growers Association and the Confederation of Tanzanian Industries, and still hoped to attract an additional US$1bn (Scherr *et al*. 2013). According to Benson and Greenfield (2012), '[b]y addressing the entire agricultural value chain, the SAGCOT approach will go beyond raising agricultural productivity and ensure the necessary infrastructure, policy environment and access to knowledge to create an efficient, well-functioning agricultural value chain'. The SAGCOT initiative applies an 'Agriculture Green Growth' (AGG) framework, and is heavily engaged with a variety of NRF strategies to generate revenue streams and incentivise conservation activities. As outlined in the AGG, the SAGCOT initiative's authors hope 'to market the enabling environment for… innovative investments' from four types of investor in particular: sustainable agriculture investment funds; climate change mitigation funds; debt finance with 'green' screening criteria; and companies investing in agriculture that incorporate environmental and social values in their business models (Milder *et al.* 2013: 58).

The UN-REDD programme, the World Bank's FCPF, and the CDM (through the UNEP-CD4CDM scheme) have supported the ongoing effort to develop a national REDD+ strategy by funding and advising work to develop the policy infrastructure and demonstration/pilot projects. Tanzania's national strategy has focused on establishing capacity for a national-level REDD mechanism and incentives scheme (e.g. PES and payments for watershed services [PWS]), based on the principles of Participatory Forest Management (PFM) and incorporating pro-REDD+ forestry activities. Supporting these goals has been the development of the National Forest Monitoring Assessment (NAFORMA) programme to fill forestry and REDD+ Monitoring, Reporting and Verification (MRV) requirements (United Republic of Tanzania, 2010, 2014). The European Union Global Climate Change Alliance supports a number of climate change adaptation and mitigation activities and projects in Tanzania with linkages to the national REDD strategy and the CDM. These focus on agroforestry, water scarcity, cook stoves and solar energy (GCCA 2015; UNDESA 2013).

NRF is an important part of green growth-oriented energy reforms in Tanzania. For example, under the Renewable Energy and Energy Efficiency Programme (REEEP), a joint UNEP/EU low-emissions capacity building programme, Tanzania has received co-funding from SouthSouthNorth, Gold Standard, the UNDP Goal Carbon Facility and Irish Aid to integrate RE/EE and carbon finance capacity, as well as to receive certification of projects from the results-based Gold Standard CDM carbon certification scheme (REEEP 2015). Tanzania has also received support from the World Bank's Energy Sector Assistance Programme (ESMAP) to support resource mapping for renewable energy and establish project-based linkages to the CDM (UNDESA 2013). Tanzania is a pilot country in the Programme for Scaling Up Renewable Energy in Low-income Countries (SREP) under the Strategic Climate Fund, with co-funding from the private finance community, including commercial debt and equity investors (Ishengoma 2013).

Through funding from the Swedish International Development Cooperation Agency (SIDA), Tanzania is one of eight countries participating in a programme called Ecosystem Service Accounting for Development (ESAforD), which is a collaboration between the Swedish Environmental Protection Agency (SEPA), the seven Environment for Development (EfD) Centres in China, Chile, Costa Rica, Ethiopia, Kenya, South Africa and Tanzania, and the WAVES partnership. The objectives of the experimental programme include

mainstreaming environmental-economic principles in national policy, and establishing standards and protocols for national environmental-economic accounting systems (Oyuke 2013; WAVES 2015a).

Tanzania is additionally the site of a number of project-based initiatives funded by the GEF, the UNDP Poverty Environment Initiative, the Global RE/EE Fund, and other organisations and initiatives focusing on biodiversity conservation, climate change mitigation and adaptation, sustainable land management, conservation agriculture, watersheds, forestry and wetlands valuation (UNDESA 2013; Klarer 2011).

5.3 Case study – The intersection of community-based forest management (CBFM) and emerging REDD+ policy in Tanzania

This case study focuses on conflict potentials at the intersection of decentralised CBFM and emerging REDD+ policy in the context of the Suledo Forest Reserve in Tanzania.
Suledo Forest Reserve is a community-owned and managed Village Land Forest Reserve (VLFR) located in Kiteto District, Arusha Region. It is jointly owned by nine villages and covers an area of over 160,000 hectares in an area of Miombo Forest in the drylands of the Maasai Steppe, an area that has been home to Maasai pastoralists for centuries (Arts *et al.* 2012; Sjoholm and Luono 2002). Activity around CBFM in Suledo began in 1993, when villagers learned that the Arusha regional government planned to establish a central government forest reserve at Suledo. Establishment of the central government reserve was meant to combat logging and deforestation and would have contributed to fulfilling the terms of the 1989 Tropical Forestry Action Plan, but would also have made grazing livestock, an important part of Maasai livelihoods, illegal overnight (Benjaminsen *et al*. 2011; Sjoholm and Luono 2002).

In response, residents of Suledo villages with assistance from the Swedish Land Management Programme (LAMP), funded through the Swedish International Development Corporation Agency (SIDA), formed forest management committees, mapped the forest, created use zones, bylaws and a patrolling system (Sjoholm and Luono 2002). After much work and lobbying by the community, the district government agreed to allow CBFM. Between 1994 and 2007, more and more villages became involved and LAMP continued to assist in land use surveys, plans, creating village bylaws, and demarcation of forest zones and borders (Arts *et al.* 2012). The official Suledo Management Plan has been in place since 2000, and in 2007, after several years of successful, low-cost forest management by villagers and after winning the UNDP US$30,000 Equator Prize in 2002 for PFM, Suledo was formally gazetted as a VLFR in 2007 (Arts *et al*. 2012).

A type of PFM created under the Forest Act of 2002, VLFRs are the most common form of CBFM in Tanzania (Blomley and Iddi 2009). For a VLFR to be established, a village or group of villages must have legal land tenure over the forested area in question, and must complete a number of tasks to document forest boundaries and describe a comprehensive management plan (Blomley and Iddi 2009). Villages must describe and map the forest boundaries; develop a management plan detailing how it will be used, managed and protected; elect a Village Forest Management Committee or Natural Resources Committee as a sub-committee of the village council and prepare bylaws that detail procedures for levying sanctions and collecting fines and fees. A district council must ratify all plans, and after three years of effective management, communities may apply for formal gazettement (Blomley and Iddi 2009). A community zonal management committee made up of representatives from Village Natural Resource Committees (VNRCs) oversees management of the VLFR and works with other stakeholders on management and forest harvesting agreements (Sjoholm and Luono 2002). In the case of Suledo, stakeholders include the

Suledo Community, the Prime Minister's Office of Regional Administration and the Local Government (PMORALG), the Forestry and Beekeeping Division of the Ministry of Natural Resources (FBD) and Tourism, NGOs, forest research institutions, donors and others (Arts *et al*. 2012).

The management plan for the VLFR establishes rules for use of the forest. These rules include a schedule of access to different zones for firewood collection and foraging activities, and specifies fees for permits to carry out specific harvesting activities. At the time of formal gazettement, Suledo villagers were promised that they would be able to benefit directly from commercial timber harvesting and the sale of charcoal, which would make a substantial contribution to local livelihoods (Benjaminsen *et al*. 2011; Veit, Vhugen and Miner 2012).

At the time that the Suledo VLFR was created, it was not known that the area included particularly high-value timber resources (Mustalahti and Lund 2009). Blomley and Ramadhani (2006) estimate that potential revenue from sustainable timber harvesting at Suledo to be about US$140,000 per year, which would mean about US$15,000 of income per village per year. Annual revenue from selling charcoal made from the remnants of harvested timber was estimated at approximately US$30,000 per year for the nine villages (Benjaminsen *et al*. 2011).

In 2008–09, plans for the first commercial timber harvest were underway. A pilot plot was identified, an inventory made and the FBD had given the community a special hammer for marking trees for harvest. All legal steps were followed and a tender and selection process for a harvesting contractor was carried out in 2009, with a contract signed that same year (Benjaminsen *et al*. 2011). However, plans were slow to progress due to unsatisfactory progress by the harvesting company. At the same time, disagreements were emerging among stakeholders, and what Humphries describes as instances of administrative 'foot-dragging' in resistance to devolution and efforts at re-centralisation (Humphries 2012: 143). For example, the district government questioned agreed-upon distribution of roles and benefits from timber harvesting and the FBD decided that profits from charcoal sales should be split between the central government and the district council, contrary to the expectations of villagers (Benjaminsen *et al*. 2011: 12). In these examples, authorities attempt to exercise authority over the sale of and distribution of benefits from forest products from the Suledo VLFR, 'despite having no legal right to do so, as legislation stipulates that this is controlled by the management plan for the VLFR and overseen by the VNRC at the village level' (Humphries 2012: 144). These circumstances reflect the fact that those who are responsible for disseminating and implementing central policy at the local and district levels are often unwilling to divest power from themselves to villagers (Blomley and Ramadhani 2006).

Additionally during this time frame, Tanzania's legacy of PFM projects have come to be increasingly considered a strong foundation for developing a national REDD+ programme (TFCG 2009). National REDD+ policy acknowledges the capabilities of local users (including specific mention of the success of the villages of the Suledo VLFR) to successfully carry out forest management and restoration (United Republic of Tanzania 2012a). In terms of sustainable forest management, the Suledo VLFR has been extremely successful in that it has led to increased forest cover, increased species richness, and increased availability of commercially viable timber species, all at a very low cost because of the benefits that accrued (and were promised) to local villagers (Arts *et al*. 2012). Such management successes are attributed to legal ownership of forests by communities, transparent cooperation among stakeholders, and a lack of major problems with corruption (Arts *et al.* 2012).

However, as Bejaminsen (2011) points out, the 'negative attitude' towards the local use of forests has already made its way into national-level REDD+ policy as well, and livestock grazing, firewood collecting, charcoal production and timber extraction are listed among the

primary drivers of forest loss in Tanzania (Benjaminsen *et al*. 2011; United Republic of Tanzania 2012a). The Suledo VLFR is listed in policy documents as a high-value potential REDD+ site, yet is at the same time depicted as being at a moderate to high risk of degradation due to local charcoal production (Katoomba Group 2009). This contradictory policy position regarding community management of forests is a manifestation of the fact that there is a stark difference between the idea of managing a forest to maintain it as 'standing carbon' under the national REDD+ strategy, and managing a forest for multiple and flexible purposes based on the needs and priorities of local communities in negotiation with other stakeholders (Benjaminsen *et al*. 2011). Furthermore, because of the abstract nature of forest carbon, communities who legally own and manage forests do not automatically have carbon rights.

As community-owned forests become the increasing focus of state re-centralisation under REDD+, CBFM and community incentives for conservation will be undermined because opportunity costs of forest management will increase for local communities, while benefits are siphoned off by central authorities (Veit et al. 2012). As Tanzania Forest Conservation Group (TFCG) suggests, in order for PFM to be an effective and equitable tool in the context of REDD+ implementation, the carbon rights of communities will need to be written into an international agreement and be a required component of national REDD+ strategies. Carbon rights should be linked to land tenure, and benefits to communities from national REDD+ carbon sales should be equitably negotiated, and should exceed the costs of forest management (TFCG 2009). Otherwise, 'political dimensions of forest tenure and policy create a paradox for REDD: increasing the value of forest resources through global carbon markets without attending to local governance and rights will create political incentives towards centralised governance, which could lead to greater forest loss and lower forest-related benefits for the poor' (Sandbrook *et al.* 2010: 330).

6 Green economy and green growth transitions in South Africa

6.1 Country overview

The Republic of South Africa, located on the southern tip of the African continent, shares borders with Botswana, Lesotho (which is located fully within the borders of South Africa), Mozambique, Namibia, Swaziland and Zimbabwe, and its coasts stretch from the Atlantic to the Western Indian Ocean (CIA 2014). After Nigeria, South Africa has the second largest economy in Africa based on GDP, and is considered an upper-middle-income emerging market economy. In 2013, it had a GDP of US$350.6bn, yet approximately 45.5 per cent of its 52 million residents had incomes falling below the national poverty line (World Bank 2015). South Africa has a large urban–rural development gap and its levels of economic inequality, poverty and unemployment are among the highest in the world (CIA 2014; World Bank 2015). The country's infrastructure base is well developed, and South Africa is the primary dominant intra-regional member of the SADC (SADC 1993; World Bank 2015).

Despite its relatively small size of 1,219,912 km^2, South Africa is incredibly ecologically diverse, with ten described biomes, or eco-regions, that range from hyper-arid desert to savannah to tropical forest to tropical alpine, and the third-highest rate of biodiversity in the world (Carruthers 2006; Wynberg 2002). Today, South Africa contains over 400 public and private protected areas, including national parks, special reserves, transfrontier protected areas, and more. At the same time, the country faces a number of long-term environmental challenges, including chronic water shortages, industrial pollution, desertification and erosion (CIA 2009). South Africa is also the highest emitter of GHGs in Africa due to mining, manufacturing and other industrial activities (World Bank 2015).

South Africa has a contentious and, at times, volatile, sociopolitical history from pre-colonial times to the present, with an ethnic landscape that has been created through the circulation and conflict among people from all over the world but most particularly between white settler populations and black South Africans (Carruthers 2006). While a detailed discussion of South African history is beyond the scope of this report, understanding the context in which green economy reforms are unfolding in South Africa requires some understanding of historical relationships between colonial and post-colonial racial policies, land policy trajectories, and conservation priorities. As Khan states, '[h]istorical and political factors such as the impact of the colonising process, the dispossession of blacks, the effect of racial attitudes, discriminatory legislation and the imposition of the Apartheid system in 1948, have had a significant impact on the development of environmental attitudes' (Khan 1994: 499).

The first European colonisers of South Africa were Dutch, who settled in the Eastern Cape in the late 1600s and founded the Cape Colony under commission from the Dutch East India Trading Company. From the outset, social relations between the geographically expanding Dutch-descended settlers (Boers, the Dutch and Afrikaans word for 'farmer') and indigenous residents of the territory were antagonistic, to say the least. Boer rule of the colony continued until the late 1700s, when a tug-of-war over colonial territorial control began with the British Crown. Over the course of the nineteenth century, conflicts among the Boers, the British, and indigenous groups continued, and were fuelled by violence perpetrated against indigenous groups, competition for control of agricultural and rangeland, and of newly discovered extractive resources including gold and diamonds. Eventually, the British gained control of the colony following the end of the Anglo-Boer War.

Conflict between white and black residents of the colony were further exacerbated by new pro-white policies of British administrators, and which were resisted by numerous South African social movements led by persons of colour, including black South Africans, Indians, and persons of colour of mixed heritage. Even though South Africa gained independence from the British Crown in 1934, the policy of white minority rule continued until the mid-1990s. Apartheid, a policy in place in South Africa from 1948 until 1994, is arguably the most well-known of the country's segregationist policies, but a long legacy of political conflict in South Africa is linked directly to efforts of successive colonial administrations to systematically deprive black and other communities of colour of land, resources and social rights (CIA 2014; Ross 2008; SAHO 2015).

South Africa's legacy of segregationist land policies resulted in systematically distorted patterns of land allocation, access to markets, provision of infrastructure and access to agricultural extension services. This began with early policies that established reserves for black residents of the colony that were intentionally too small to support independent agricultural livelihoods. According to Binswanger and Deninger (1993), an economic goal of these early policies was to reduce white settlers' agricultural market competition from black farmers, and tenant farming became an increasingly common practice. Policies like the Glen Grey Act of 1894 and the Nature Lands Acts of 1913 and 1936 further squeezed black farmers by restricting land ownership on reserves to one parcel of no more than three hectares, restricting farms owned by black farmers to reserves, and prohibiting both sharecropping and land rental. In addition to eliminating agricultural competition, these later policies were oriented around weakening black farming syndicates and developing a labour force for mining by transforming farmers into wage workers through land exclusion (Binswanger and Deininger 1993).

Over this time period as well, environmental protection programmes were being established. As Cock and Fig (2000) discuss, the historical development of protected areas reflects South Africa's historical relations of power and privilege, and the establishment of parks and game reserves entailed a 'double exclusion' for black South Africans under colonialism and later apartheid – exclusion from residential, livelihood-related and recreational 'consumption' of protected territories and also political exclusion from decision-making about the creation of parks (Cock 2014). Prior to the end of apartheid, the National Parks Board (NPB), established in 1926, was completely made up of white males who were politically aligned with Afrikaner nationalism with administrators appointed by a highly centralised government. The board, like the central government, lacked transparency and democratic oversight (Rossouw and Wiseman 2004). Like Tanzania, early environmental preservation efforts in South Africa were game and wildlife-focused, and likewise, historically South African PA establishment has involved policies of removals of indigenous peoples and establishing restrictions on hunting and resource use within protected areas (Carruthers 1995; Venter *et al.* 2008). Throughout most of the twentieth century, parks, dedicated exclusively to biodiversity (and sometimes government military training) to the detriment of human needs, continued to reflect the worst aspects of 'colonial conservation' (Cock and Fig 2000).

The early to mid-1990s brought the official end of apartheid, movement towards state decentralisation and, following international paradigmatic shifts towards sustainable development and participatory resource management, big changes for conservation policy in South Africa. The post-apartheid government inherited 17 public national parks with about 4 per cent of the country's land area dedicated to formal environmental preservation, changed the name of the NPB to South African National Parks (SANP) and asserted commitments to increased transparency, racial and political diversity, democracy and the equitable distribution of the benefits of environmental conservation in policymaking (Cock and Fig 2000).

Since the transition, South African national and provincial conservation agencies have also advocated for the expansion of the conservation agenda and of the territorial scope of protected areas in the country (King 2007; Rossouw and Wiseman 2004). In the mid-1990s, the SANP announced a new vision of conservation linked to sustainable conservation and development – preserving biodiversity across the biomes, fulfilling human needs, increasing human development, increasing employment, maintaining sustainable resource access and promoting community-based conservation (Cock and Fig 2000). Since 1995, South Africa has ratified the UN Convention on Biological Diversity and has spent more than US$20m on land purchases to expand the national PA network to cover 8 per cent of terrestrial land and 20 per cent of coastal lands (GEF 2008).

6.2 National green economy transitions

Compared to the other two SADC countries discussed in this report, South Africa was well ahead of the global triple crisis and Rio+20 in relation to energy and climate change adaptation and mitigation policies, and in terms of movement towards multi-sectoral green growth transitions. These early policy actions following the 1992 Rio Earth Summit paved the way for later development of cross-sectoral strategies around green growth and the development of NRF (Wynberg 2002). For example, South Africa's first national environmental policy process, the National Environmental Management Act (NEMA) of 1998, was developed as an overarching framework for the establishment of key laws around environmental management and sustainable development (GEF 2008; Rossouw and Wiseman 2004). After signing on to the UNFCCC in 1993 and the Kyoto Protocol in 1997, the country prepared its Initial National Communication (INC) document, detailing areas of particular vulnerability to climate change and identifying options for adaptation and mitigation activities (Holgate 2007; Republic of South Africa 2003). The National Climate Change Response Strategy followed in 2004. In terms of renewable energy and energy efficiency (RE/EE), South Africa prepared a sustainable energy policy platform early on as well, including the White Paper on the Energy Policy of South Africa in 1998, the White Paper on Renewable Energy in 2003 and the Energy Efficiency Strategy in 2005 (GEF 2008). These are in addition to signing onto a number of international environmental conventions and producing complementary national platforms around industrial pollution, waste management, sustainable tourism, green employment, air quality, water quality, land and wetlands degradation, sustainable agriculture and forestry.

Rather than scrambling to put together proposals for the international funding opportunities that emerged around Rio+20, South Africa's transition from sustainable development to green growth around the UNCSD can be considered a matter of international branding (assisted by the UNEP's GEI and other partners) through national-level planning and policy action. By strategically positioning itself as responsive to global crises, as 'outward-looking', and by investing in 'green' development projects in other countries, South Africa come to be widely considered a global green economy leader (Death 2014; UNEP 2013).

Cumulatively, the prior frameworks, platforms and partnerships formed the foundation on which South Africa's national green economy strategy, heavily oriented around the concept of 'green growth', was built (Death 2014; UNDESA 2013). More recent legislation and position papers specifically articulate with the green economy paradigm, including the short-, medium- and long-term strategic frameworks, the 2010 Green Paper on Climate Change, the 2011 National Climate Change Response White Paper, the 2012 National Development Plan, and becoming a signer on the Copenhagen Accord.

South Africa's formal national green economy strategy focuses on nine key areas of policy action towards the goal of comprehensive green growth (DEA 2015). These nine key areas include greening buildings and the built environment; sustainable transportation and infrastructure, including the promotion on non-motorised transport; natural resource

conservation and management; sustainable waste management; agriculture, food production and forestry; water management; sustainable consumption and production methods targeting specific industries, and general mainstreaming of environmental sustainability, including greening large public events and tourism, and developing research and knowledge management skills capacity (DEA 2015).

In addition to this policy branding, a few circumstances particular to South Africa's environmental policy landscape make it stand out from other SADC countries, and have contributed to the development of a national strategy and the proliferation of green growth policies, programmes and projects on the national and sub-national level.

First, in response to the global financial crisis, in 2008 South Africa launched a US$7.5bn economic stimulus package covering the period 2009–11, 11 per cent of which was dedicated to environmental themes and greening to 'prime' green economy transitions (Death 2014; Musyoki 2012; UNEP 2009).

Second, South Africa established the Green Fund in 2012. The Green Fund is a national fund meant to support the development of South Africa's green economy vision through leveraging public funds that remove market barriers to external investment (Green Fund 2014).

Third, and related, NRF, facilitated through linkages to voluntary markets for finance-based environmental products, PES, the CDM, and REDD+, is a major aspect of green growth planning in South Africa and crosscuts key green economy themes, sectors and policy instruments. South Africa has a very large portfolio of active CDM projects across sectors. Particular NRF effort is related to sustainable infrastructure (particularly capacity for RE/EE), biodiversity conservation and management in the context of an expanded network of protected areas, agriculture and forestry (Death 2014; Musvoto *et al.* 2015; UNEP 2013). Many of these initiatives have been facilitated through the Green Fund with co-funding from donors and private partnerships, including the Farming the Wild project to promote greening of the rural economy through conservation agriculture; biodiversity programmes like Sanparks and Shepherding Back; eThekwini Municipality's Greening Durban programme that seeks to transform landfills into active carbon sequestration zones through reforestation; the Wildlands Waste-preneurs project that combines recycling and ecosystem services delivery, and the RE/EE retrofitting of low-cost housing.

Fourth, and finally, and under the post-apartheid constitution, provincial legislatures were empowered to enact environmental legislation independently of the national government (King 2007; Rossouw and Wiseman 2004). This has resulted in not just a national green economy strategy, but also emerging provincial green economy strategies with their own particular focal areas (see, for example, Musyoki 2012; Western Cape Government 2013).

6.3 Case study – Collaborative relations, conflict and the legitimating role of payments for environmental/ecosystem services (PES) in policy around the Maloti-Drakensberg Transfrontier Conservation Area in South Africa and Lesotho

This case study focuses on transnational dynamics and conflict around planning for the Maloti-Drakensberg Transfrontier Conservation and Development Area (MDTFCA), a collaborative trans-boundary PA that is operated jointly between the Republic of South Africa and the Kingdom of Lesotho. Transfrontier Conservation and Development Areas (TFCAs) are ambitious projects, crossing national borders and subsuming multiple land uses and tenure systems. They generally claim to achieve multiple benefits including biodiversity

preservation, cross-border alignment of land tenure systems, local economic development through skills training, new sources of income through involvement in conservation activities, and new 'business opportunities' for private corporations and local communities (e.g. through ecotourism) (Wittmayer and Büscher 2010; Büscher 2010). In addition, transfrontier protected areas like the MDTFCA are frequently promoted as 'peace parks', marketed internationally to donors as promoting international peace and cooperation.

The MDTFCA is one of the most bureaucratically complex and most well invested TFCAs in the world (Büscher 2010). It spans jurisdictional levels – international, national, provincial/district, and local (Büscher 2012). It encompasses over 8,000 square kilometres that straddle the border between the two countries, joins several existing protected areas under a number of different governance schemes (Golden Gate Highlands National Park, QwaQwa National Park, Sterkfontein Dam Nature Reserve, uKhahlamba Drakensberg Park, Royal Natal National Park and Sehlabathebe National Park), and includes land spanning Botha-Bothe, Mokhotlong and Quacha's Nek districts in Lesotho, and KwaZulu-Natal, Free State and Eastern Cape Provinces in South Africa (Wittmayer and Büscher 2010; Republic of South Africa 2015). Because of the existing park and reserve structures, the geographic extent of the TFCA, and the bureaucratic and political complexity of the trans-border programme, the MDTFCA actually encompasses a varied range of land tenure systems and environmental and development interventions and projects related to managed natural resources, cultural heritage areas, and strict 'wilderness' sites; land care and rehabilitation; tourism; livestock care and management; improving irrigation and handicrafts and other skills-building. As a result, local 'experience' and opinion, as well as the potential for conflicts associated with the programme, are extremely varied across the programme's area and across jurisdictional levels.

According to the Maloti-Drakensberg Transfrontier Programme, the aims of the PA are to 'conserve and sustainably manage the globally significant natural and cultural heritage of the Maloti and Drakensberg mountains', the source of 25 per cent of South Africa's fresh water through runoff, dams and international transfers, and to promote development through the sustainable use of the many economic opportunities presented by the PA – especially around tourism (Republic of South Africa 2015; MDTP 2007; Blignaut *et al.* 2010). Another important aspect of MDTFCA planning has been around instituting PES. In a general sense, PES schemes compensate land owners and land users for behavioural adjustments that result in changes in land use management and practices aimed at increasing 'the flow of ecosystem services' (Blignaut *et al*. 2010). These practices may include ecosystem restoration or preservation activities with positive intended ecological impacts such as, for example, improved grassland or riparian ecosystem functioning, improving soil or standing forest carbon storage, improved water filtration functions and reduced erosion.

After a long planning period that began in the 1990s, in 2001 a Memorandum of Understanding (MoU) was signed between the two countries, and the PA was developed over two long implementation phases. These included a preparatory policy phase, funded by the GEF of the World Bank, that lasted from 2002–07 and produced the twenty-year conservation and development strategy and the first five-year action plan for the area, and a second pilot phase that was co-funded by the governments of South Africa and Lesotho, lasting from 2008 to 2012 (but may still be ongoing), that meant to test the first five-year plan and feed into a third phase for which precise details are currently unavailable at the time of writing (Republic of South Africa 2015). The MDTFCA is currently operated under the *Maloti-Drakensberg Transfrontier Park / uKhahlamba Drakensberg Park World Heritage Site / Sehlabathebe National Park Joint Management Plan* (MDTP 2012).

Midway through the first phase of the project, significant challenges to planning and implementation became evident due to the 'inherent complexity of the project', the significant social, institutional and economic differences between Lesotho and South Africa, as well as different visions and goals for the PA, which resulted in a drifting apart between the two

countries' respective Project Coordination Committees (PCCs) (Murray and Aitken 2006; Büscher and de Beer 2011). According to Büscher and de Beer (2011), challenges have hampered effective governance of the project throughout, including the short-term dynamics of policy planning, tension between technical, 'hard science' approaches to bio-regional planning favoured by the South African PCC and 'moral', participatory, anthropocentric approaches to development goals on the part of the Lesotho PCC, and increasing gaps between policy framings and practice (Büscher and de Beer 2011).

Over the course of the planning phase, interpersonal and conceptual conflicts between the two PCCs grew increasingly problematic. These included conflicts around hiring for administrative positions, around assessment approaches and disagreements over the constitution of 'community-based' approaches. With growing antagonism, the PCCs competed with one another for legitimacy and acceptance, and both sides took action to marginalise the other in the planning process, and to de-legitimise the other in the eyes of donors. Poor relations shifted the two PCCs towards increasing competition over 'buy-ins' from stakeholders for future project implementation, and increased the significance of environmental-economic conservation orientations and market-like policy mechanisms for environmental management, including PES. The fragile relations among the PCCs eventually degraded to the point at which independent mediators had to be brought in (Büscher 2012; Büscher 2010).

Both before and after the establishment of the MDTFCA, the area had been depicted by many authors as an ideal site for successful implementation of a PES system around water resources (Büscher 2012; Blignaut *et al*. 2010; Mander 2008). By the time the MDTFCA was established, PES had become increasingly popular internationally as well as a market-like policy instrument for natural resource management, but was not a part of original TFCA implementation plans (Büscher 2012). PES became a further source of antagonism in the MDTFCA planning and implementation process, advocated by the South African PCC as a 'magic bullet' for conservation, complementary to their favoured bio-regional approach, and resisted by the Lesotho PCC which held the position that adding PES to an already complicated management framework would distract from focused implementation plans. Over Lesotho's objections, the South African PCC commissioned a PES baseline study, the report from which glossed over problems in the collaboration and framed the MDTFCA as an emerging ecosystem services market, a position that donors eagerly embraced (Büscher 2012). In the end, the MDTFCA has come to be oriented around the bio-regional approach, and PES (although PES has not been systematically implemented in the PA), both positions advocated by the South African PCC and resisted by Lesotho's PCC.

Planning conflicts between the PCCs of South Africa and Lesotho reflect the fact that, despite portrayals of their collaboration over the MDTFCA as promoting peace and international cooperation, South Africa and Lesotho are incredibly uneven partners (Büscher 2010). Even though it is a sovereign nation, the territory of Lesotho is completely enclaved within the territorial boundaries of South Africa. Lesotho is economically dependent on South Africa for markets for agricultural products and employment in South African mines, and the two countries have a historically tense and contentious political and economic relationship. Amidst this historical and contextual complexity, it is difficult for conservation actors to navigate the diverse social, political and economic pressures on people and land, and constructively combine them with biodiversity conservation (Büscher 2012). In this context, market-like policy instruments can be powerful tools and sources of conflict in the policymaking sphere, regardless of their effectiveness in achieving on-the-ground resource management and development goals. As demonstrated in the case of the MDTFCA, the international popularity and 'win-win' promise of PES and other NRF instruments can be applied by competing actors in conflictual policy situations to legitimate claims and positions, and dominate planning relationships and processes.

7 Conclusions

As discussed in the introductory section of this report, the broad appeals of green economy approaches and NRF to environmental conservation and development lie in a bundled package of policy promises: adaptation to minimise the harmful impacts of global climate change, preservation of crucial ecosystem functions, and capturing 'triple-win' opportunities for achieving socially inclusive environmental sustainability, economic growth, and poverty alleviation through policy reform on one hand, and the promise to make both the global economy and the global environment 'work' to support one another, while providing offsets to mitigate environmentally destructive industrial activities and generating streams of income for cash-strapped local communities to invest in infrastructure and development initiatives on the other (UNDP 2012).

7.1 The burden of the public sector in developing countries

According to Vahanen and colleagues, 'what many tropical forested African countries are bringing to the table is the political willingness and political capital to offer their forests for public good to the world for reducing emissions' (2009: 139). Even with willingness to make political commitments, a particularly problematic aspect of the UN green economy framework is the fact that the public sectors of developing countries carry the greatest burden of responsibility and risk in realising global green economy transitions. As the SADC Secretariat points out in discussing practical realities and constraints to sub-regional integration around environmental mainstreaming among member states, challenges to realising green economy transitions in Southern African countries include both long-standing and new or emerging challenges. Long-standing constraints to implementation of green economy reforms are linked to technocratic gridlock; pervasive institutional weaknesses and poor capacity for transitions in different countries; lack of access to financial, technical and human resources; over-dependence of the region and member states on international donor funding; ongoing intra-regional dependency on South Africa; and institutional 'misalignment' across countries. These long-standing circumstances intersect with new and emerging challenges, including the overlapping crises of 2008–09: persistent poverty; HIV/AIDS and gender inequity; and failed attempts to create employment, entrepreneurship, and trade opportunities (SADC 2010, 2011, 2013b). Furthermore, these challenges are faced by countries in regional and global contexts of historical dependencies and rising inequalities. As demonstrated by the case of the Maloti-Drakensberg Transfrontier Conservation Area, highly uneven collaborations can result in conflicts that unfold in the process of cross-border planning.

7.2 Policy transitions and the value of natural resources

Rather than a concrete departure from prior paradigms of environmental governance and development, the green economy builds upon a conceptual basis established in the 1980s in environmental economics, embracing and integrating concepts of scarcity, degradation and market metaphors for natural processes and degradation. It also builds upon an international institutional policy structure that was established from the 1990s onward under the banner of sustainable development. Arguably, the primary point of departure is the salience of NRF, the application of which is a means to establish stronger linkages between the functions of environmental resources *in situ*, economic growth and the viability of global financial markets.

In doing so, it may be argued that NRF policies are creating a new class of non-extractive high-value conservation resources – monetised natural capital assets – on which environmental derivatives are based. While extractive high-value resources have long been

the subject of conflict and civil unrest in developing countries, it is likely that this new class of high-value resources will be implicated in new forms of conflict that play out around ecosystems, assessment techniques and certification schemes. These reforms and programmes build upon prior conservation regimes which often already possess deep histories of negotiation, compromise and conflict among, for example, groups of local resource users; state agencies and representatives; local and regional security personnel; private companies and foundations and local, national and international NGOs around issues of resource access rights, participation in governance, equity and recompense, autonomy, identity and legitimacy.

Because of these legacies, the political economy of NRF, and due to the fact that resources in question cannot be extracted and traded in informal markets, conflicts that arise around natural resource financialization are likely to more closely resemble 'conservation conflicts' and clashes over basic understandings of phenomena, policy objectives or implementation practices related to NRF-related policy reforms and planning, in which one group is able to exert its interests over those of others (Redpath *et al*. 2013: 100). In this framing, conflict may result in violence, but may also result in tensions, ideological insurgencies, new social movements and other forms of antagonism and resistance. In the context of environmental planning, policy-relevant scientific debates, and policy change, conflicts can arise on different jurisdictional levels and cross scales, involve diverse actors, organisations and governance structures. Yet, the extent to which conflicts around high-value resources in the context of conservation resembles prior conservation conflicts remains to be seen.

7.3 Conflict potential in implementation settings

The case studies presented in this report focus on biodiversity offsetting in the context of mineral extraction in Madagascar, the undermining of community-based forestry management in the context of REDD+ planning in Tanzania, and planning conflicts in the establishment of a transfrontier PA straddling the border dividing South Africa and Lesotho. Taken together, these cases demonstrate how international programming can intersect with national social and policy histories to unfold in unpredictable and often conflictual, ways.

The case from Madagascar highlights important dynamics around the sub-national 'unfolding' of green growth strategies, including the relative roles of states, private sector actors, NGOs and local populations in facilitating green growth schemes, and specifically how NRF and offsetting can both buttress relationships and exacerbate historical inequities between diverse groups of actors in low-income settings. This case additionally underscores the ways in which NRF, in practice, can blur distinctions between public and private domains, environmental stewardship and environmental degradation, voluntary and compliance market domains, and social inclusion and exclusion in particular project contexts.

The case from Suledo Forest Reserve in Tanzania demonstrates how, contrary to policy framings, emerging REDD+ policies are at odds with CBFM due to the stark differences in practice between managing forests to maintain 'standing carbon' under a national REDD+ strategy, and sustainably managing forests for multiple and flexible purposes based on the needs and priorities of local communities. This 'policy paradox' has begun to contribute to a retrenchment of centralised top-down approaches to forest management in Tanzania, a country with an international reputation built upon the theme of decentralised and community-based wildlife and forest management schemes.

Departing from the 'local' context of NRF, the example from the Maloti-Drakensberg Transfrontier Conservation and Development Area demonstrates how planning conflicts between South Africa and Lesotho reflect the fact that, despite portrayals of their collaboration over the PA as promoting peace and international cooperation, uneven partnerships can lead to conflict, and the international popularity and 'win-win' promise of

PES and other NRF instruments can be applied by competing actors in conflictual policy situations to legitimate claims and positions, and dominate planning relationships and processes.

Evidence from case studies suggests that, while the intent of reforms may be the realisation of more inclusive, equitable and less environmentally hazardous futures, policy framings and reporting – from international to sub-national levels – they have a tendency to obscure the social and ecological challenges and complexities of policy implementation, emerging inequities and conflict potentials around these new resource regimes, highlighting the need for increased empirical work around unfolding relationships between green economy policy and emerging conflict dynamics. Results of this report also demonstrate a source of disjuncture in green economy policy – that environmental problems have arisen as a result of dynamic interactions among social, ecological and technical systems, yet dominant policy framings of these problems rely on largely ahistorical and simplified depictions of causality, crisis, scarcity and resolution, and dominant practice around addressing them relies on increasingly managerial and technical approaches that themselves may lead to the creation of new problems and crises (Leach *et al*. 2010). As we move forward, it is important to develop rigorous and transparent means of identifying and assessing interactions, articulations, and emerging outcomes, crises and possibilities that arise in the context of transformative policy changes that are simultaneously global, regional and local, and natural, social and economic.

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